

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
27 February 2003 (27.02.2003)

PCT

(10) International Publication Number  
**WO 03/016475 A2**

(51) International Patent Classification<sup>7</sup>: C12N

(21) International Application Number: PCT/US02/25765

(22) International Filing Date: 14 August 2002 (14.08.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/312,147	14 August 2001 (14.08.2001)	US
60/346,382	1 November 2001 (01.11.2001)	US
60/333,347	26 November 2001 (26.11.2001)	US

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(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

- without international search report and to be republished upon receipt of that report
- with sequence listing part of description published separately in electronic form and available upon request from the International Bureau

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: NUCLEIC ACID AND AMINO ACID SEQUENCES INVOLVED IN PAIN

(57) Abstract: The present invention relates to nucleic acid sequences which are related to pain and which are differentially expressed during pain. The invention further relates to methods of identifying nucleic acid sequences which are differentially expressed during pain, microarrays comprising such differentially expressed sequences and methods of screening agents for the ability to regulate the expression of such differentially expressed sequences.



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**NUCLEIC ACID AND AMINO ACID SEQUENCES INVOLVED IN PAIN****PRIORITY**

This application claims priority under 35 U.S.C. §119(e) to U.S. Provisional Application Nos. 60/312,147, filed August 14, 2001; 60/346,382, filed November 1, 2001; and 60/333,347, filed November 26, 2001. The contents of each application are incorporated herein in their entirety.

**SEQUENCE LISTING**

The present application includes a Sequence Listing submitted herewith on four identical CD-ROM disks pursuant to 37 C.F.R. §1.53(e). The information on each CD-ROM is identical. Submitted are the following four CD-ROM disks: "Copy 1 – Sequence listing part" (disk 1), "Copy 2 – Sequence listing part" (disk 2), and "Copy 3 – Sequence listing part" (disk 3), and "CRF" (disk 4). The following information is identical for each CD-ROM submitted: Machine Format: IBM-PC; Operating System: MS-Windows; Files Contained: Formal\_sequence\_listing.txt; Size: 46,682,797 bytes; Date of Creation: August 13, 2002. The information on each CD-ROM is incorporated herein by reference in its entirety.

**BACKGROUND OF THE INVENTION**

Pain is a state-dependent sensory experience which can be represented by a constellation of distinct types of pain including chronic pain, neuropathic pain, inflammatory pain, and physiological pain. Current therapy is, however, either relatively ineffective or accompanied by substantial side effects (Sindrup and Jensen, 1999 *Pain* 83: 389). All of the primary forms of pain therapy have been discovered either empirically through folk medicine, or serendipitously. These forms of treatment include opiates, non-steroidal anti-inflammatory drugs (NSAIDs), local anesthetics, anticonvulsants, and tricyclic antidepressants (TCAs).

Recently there has been a great deal of progress in understanding the mechanisms that produce pain (McCleskey and Gold, 1999, *Annu. Rev. Physiol.* 61: 835; Woolf and Salter, 2000, *Science* 288: 1765; Mogil et al., 2000, *Annu. Rev. Neurosci.* 23: 777). It is increasingly clear that multiple mechanisms operating at different sites, and with different temporal profiles, are involved. In consequence, there is a need in the art for a shift in pain management from



identify and treat the mechanisms present in a given patient (Woolf and Mannion, 1999, *Lancet* 353: 1959; Woolf and Decosterd, 1999, *Pain* 82: 1). Accordingly, there is a need in the art for techniques which enable the identification of the genes responsible for these mechanisms.

The present invention, in an effort to meet such a need, provides a plurality of genes which are differentially expressed in animals which have been subjected to pain. The present invention provides advantages over existing measurements of differential expression in that the invention provides lower thresholds of differential expression. The present invention thus encompasses a much larger number of genes which show differential expression, and therefore provides a much improved method for identifying a larger number of genes whose expression may be directly related to the mechanisms which underlie pain.

### SUMMARY OF THE INVENTION

The present invention provides a composition comprising two or more isolated polynucleotides, wherein each of said two or more isolated polynucleotides is selected from the polynucleotides of Tables 1 or 2 or a sequence which hybridizes under high stringency conditions thereto, and wherein at least one of said two or more isolated polynucleotides is unique to Table 2, or a sequence which hybridizes under high stringency conditions thereto.

The invention also provides a composition comprising two or more isolated polynucleotides, wherein each of said two or more isolated polynucleotides is selected from the group consisting of: a polynucleotide comprising any of the polynucleotides specified in Table 1 or 2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene"; a polynucleotide encoding an amino acid sequence selected from the group consisting of: amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; and the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein"; a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (a) to (b) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; a

polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (a) to (c) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; and a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a) to (d) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier".

The invention further provides polypeptide sequences, indicated by Accession no. in Table 2, which are encoded by the polynucleotide sequences shown in Tables 2 which are differentially expressed by at least 1.2 fold across at least three replicate screens of neuronal tissue obtained from an animal subjected to pain relative to an animal not subjected to the same pain, with a P-value of less than 0.05.

The invention further provides human polypeptide sequences, indicated by Accession no. in Table 2, which are encoded by the human polynucleotide sequences shown in Tables 2 which are differentially expressed by at least 1.2 fold across at least three replicate screens of neuronal tissue obtained from an animal subjected to pain relative to an animal not subjected to the same pain, with a P-value of less than 0.05.

The invention further provides polypeptide sequences, indicated by Accession no. in Tables 2 or 3, which are encoded by the polynucleotide sequences shown in Tables 2 or 3 which are differentially expressed by at least 1.4 fold in an animal subjected to pain relative to an animal not subjected to the same pain.

The invention further provides human polypeptide sequences, indicated by Accession no. in Tables 2 or 3, which are encoded by the human polynucleotide sequences shown in Tables 2 or 3 which are differentially expressed by at least 1.4 fold in an animal subjected to pain relative to an animal not subjected to the same pain.

The invention further provides human polynucleotide sequences, indicated by Accession no. in Table 2 or 3 which are differentially expressed by greater than 1.4 fold in an animal subjected to pain relative to an animal not subjected to pain and polypeptide sequences encoded thereby. Preferably, the animal is a human.

The invention further provides human polynucleotide sequences, indicated by Accession no. in Table 2, which are differentially expressed by at least 1.2 fold across at least

three replicate screens of neuronal tissue obtained from an animal subjected to pain relative to an animal not subjected to the same pain, with a p-value of less than 0.05.

Table 1 of the present invention includes polynucleotide sequences which have been examined using the methods described herein, and have been previously individually described in the art as being regulated in animal models of pain. Not all of the polynucleotides shown in Table 1, however, are "differentially expressed" according to the present invention. The invention is based, in part, upon the discovery that certain polynucleotides shown in Table 1 are differentially expressed in nerve tissue. Those polynucleotides indicated as having a Fold change of +/- 1.4 or greater are differentially expressed.

Table 2 and 3 of the present invention include polynucleotide sequences which have not been previously described in the art as being regulated in animal pain models and which have been analyzed in at least three replicate screens of neuronal tissue from animals subjected to pain, and have attained a statistical significance of  $p < 0.05$ . Table 2 and 3, however, also include one or more of the sequence indicated in Table 1. Accordingly, the phrase "unique to Table x" refers to a sequence which is indicated in Table x, and is not indicated in Table 1. Therefore, the invention also is based, in part, upon the discovery that polynucleotides (listed in Tables 2 and 3) are differentially expressed in nerve tissue obtained from an animal subjected to pain relative to an animal not subjected to the same pain. This discovery is demonstrated in nerve injury models of pain: e.g., spared nerve injury, axotomy, chronic constriction, and nerve ligation, and inflammation pain models. Each of tables 2 and 3 represents a polynucleotide sequence which is identified herein as being differentially expressed in an animal subjected to pain by at least 1.4 fold relative to the expression of the same sequence in an animal which has not been subjected to the same pain. Table 2 represents sequences which have been analyzed in at least three replicate assays of differential expression and are differentially expressed by at least 1.4 fold in an animal subjected to pain relative to an animal not subjected to pain, and have a statistical significance of  $P < 0.05$ . Thus, each of the polynucleotides shown in Tables 2 or 3 is differentially expressed in an animal subjected to pain according to the present invention.

Table 4 and 5 of the present invention include polynucleotide sequences which have not been previously described in the art as being regulated in an animal pain model, and which have been identified herein as being differentially expressed in an animal subjected to

inflammatory pain by at least 1.4 fold. All of the sequences in Tables 4 and 5 are identified herein as being differentially expressed, and a number of the polynucleotides indicated in Tables 4 and 5 have also been included in Table 2, as having attained a statistical significance of  $p < 0.05$  in three replicate analyses of gene expression.

Accordingly, the present invention provides a composition comprising polynucleotides which are differentially expressed by at least  $\pm 1.2$  fold in at least three replicate assays of nerve tissue obtained from a nerve injury or inflammation pain model, with a p-value of less than 0.05, wherein each of the polynucleotides is selected from the polynucleotides listed in Tables 1 or 2, and wherein at least one of the polynucleotides is selected from the polynucleotides listed in Table 2.

In one embodiment, each of the two or more isolated polynucleotides is differentially expressed by at least 1.4 fold in the nerve tissue of an animal subjected to pain relative to the animal not subjected to the pain, and alternatively, are differentially expressed by at least 1.4 fold across three replicate assays of expression in nerve tissue obtained from a nerve injury pain model with a p-value of less than 0.05.

In an alternate embodiment, each of the two or more isolated polynucleotides is differentially expressed by at least 2 fold in the neurons of an animal subjected to pain relative to the animal not subjected to the pain.

In one embodiment, the nerve tissue is the sensory neurons of the dorsal root ganglion, or dorsal horn of the spinal cord.

The invention also provides a plurality of vectors each comprising an isolated polynucleotide, wherein each of the isolated polynucleotides is selected from Table 1, 2, 3, 4, or 5, or a sequence which hybridizes under high stringency conditions thereto, and wherein at least one of the isolated polynucleotides is unique to Table 2, 3, 4, or 5, or a sequence which hybridizes under high stringency conditions thereto.

The invention further provides a plurality of viral vectors each comprising an isolated polynucleotide, wherein each of the isolated polynucleotides is selected from Table 1, 2, 3, 4, or 5, or a sequence which hybridizes under high stringency conditions thereto, and wherein at least one of the isolated polynucleotides is unique to Table 2, 3, 4, or 5 or a sequence which hybridizes under high stringency conditions thereto.

The invention further provides a plurality of vectors each comprising an isolated polynucleotide, wherein each of said two or more isolated polynucleotides is selected from the group consisting of: (a) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene"; (b) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (i) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (ii) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein"; (c) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (a) to (b) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (d) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (a) to (c) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (e) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a) to (d) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier".

In one embodiment, the vectors described above are contained within a host cell.

The invention further provides a method for identifying a nucleotide sequence which is differentially regulated in an animal subjected to pain, comprising: hybridizing a nucleic acid sample corresponding to RNA obtained from the animal to at least three replicates of a nucleic acid sample comprising one or more nucleic acid molecules of known identity; measuring the hybridization of the nucleic acid sample to the one or more nucleic acid molecules of known identity for each of the replicates, wherein a 1.2 fold difference in the hybridization, and a p-value of less than 0.05 across the at least three replicates, of the nucleic acid sample to the one or more nucleic acid molecules of known identity relative to a nucleic acid sample obtained from an animal which has not been subjected to the pain is indicative of the differential expression of the nucleotide sequence in the animal subjected to pain.

The present invention also provides a method for identifying a nucleotide sequence which is differentially regulated in an animal subjected to pain, comprising: hybridizing a nucleic acid sample corresponding to RNA obtained from the animal to a nucleic acid sample comprising one or more nucleic acid molecules of known identity; measuring the hybridization of the nucleic acid sample to the one or more nucleic acid molecules of known identity, wherein a 1.4 fold difference in the hybridization of the nucleic acid sample to the one or more nucleic acid molecules of known identity relative to a nucleic acid sample obtained from an animal which has not been subjected to the pain is indicative of the differential expression of the nucleotide sequence in the animal subjected to pain.

The invention further provides a method for identifying a nucleotide sequence which is differentially regulated in an animal subjected to pain, comprising: hybridizing a nucleic acid sample corresponding to RNA obtained from the animal to at least three replicates of an array comprising a solid substrate and one or more nucleic acid molecules of known identity; wherein each nucleic acid member has a unique position and is stably associated with the solid substrate; and measuring the hybridization of the nucleic acid sample to the at least three replicates of the array, wherein a 1.2 fold difference in the hybridization, and a p-value of less than 0.05 across the at least three replicates, of the nucleic acid sample to the one or more nucleic acid molecules of known identity comprising the array relative to a nucleic acid sample obtained from an animal which has not been subjected to the pain is indicative of the differential expression of the nucleotide sequence in the animal subjected to pain.

The invention still further provides a method for identifying a nucleotide sequence which is differentially regulated in an animal subjected to pain, comprising: hybridizing a nucleic acid sample corresponding to RNA obtained from an animal which has been subjected to pain to an array comprising a solid substrate and a plurality of nucleic acid members; wherein each nucleic acid member has a unique position and is stably associated with the solid substrate; and measuring the hybridization of the nucleic acid sample to the array, wherein a 1.4 fold difference in the hybridization of the nucleic acid sample to one or more nucleic acid members comprising the array relative to a nucleic acid sample obtained from an animal which has not been subjected to the pain is indicative of the differential expression of the nucleotide sequence in the animal subjected to pain.

In one embodiment, any of the preceding methods for identifying a nucleotide sequence which is differentially regulated in an animal subjected to pain may further

comprise the step of verifying the differential expression of the nucleotide sequence by a molecular procedure selected from the group consisting of Northern analysis, *in situ* hybridization, and PCR.

The invention provides a method for identifying a nucleotide sequence which is differentially regulated in an animal subjected to pain, comprising: hybridizing a nucleic acid sample corresponding to RNA obtained from an animal which has been subjected to pain to an array comprising a solid substrate and a plurality of nucleic acid members; wherein each nucleic acid member has a unique position and is stably associated with the solid substrate; measuring the hybridization of the nucleic acid sample to the array, wherein a 1.4 fold difference in the hybridization of the nucleic acid sample to one or more nucleic acid members comprising the array relative to a nucleic acid sample obtained from an animal which has not been subjected to the pain is indicative of the differential expression of the nucleotide sequence in the animal subjected to pain; and verifying the differential expression of the nucleotide sequence by a molecular procedure selected from the group consisting of Northern analysis, *in situ* hybridization, and PCR.

In one embodiment, a 1.4 fold change in the hybridization of the nucleic acid sample to one or more nucleic acid members comprising the array relative to a nucleic acid sample obtained from an animal which has not been subjected to the pain is indicative of the differential expression of the nucleotide sequence following pain.

In a further embodiment, a 2 fold change in the hybridization of the nucleic acid sample to one or more nucleic acid members comprising the array relative to a nucleic acid sample obtained from an animal which has not been subjected to the pain is indicative of the differential expression of the nucleotide sequence following pain.

In one embodiment, the nucleic acid sample is labeled with a detectable label prior to the hybridization to the array.

In a further embodiment, the above methods for identifying a nucleic acid sequence which is differentially regulated in an animal subjected to pain further comprises the step of isolating the nucleic acid sample from the animal.

In one embodiment, nucleic acid sample is cRNA.

The present invention also provides an array comprising: a plurality of polynucleotide members, wherein each of the polynucleotide members is selected from Table 1, 2, 3, 4, or 5 and wherein at least one of the isolated polynucleotides is unique to Table 2, 3, 4, or 5; and a solid substrate, wherein each polynucleotide member has a unique position on the array and is stably associated with the solid substrate. Such an array will be referred to herein as a "pain specific array".

The invention still further provides an array comprising: a plurality of polynucleotide members, wherein each of the polynucleotide members is selected from Table 1, 2, 3, 4, or 5, and wherein at least one of the isolated polynucleotides is unique to Table 2, 3, 4, or 5 and wherein the plurality of polynucleotide members are obtained from neuronal tissue obtained from at least two different species of animal; and a solid substrate, wherein each polynucleotide member obtained from each of the two different species has a unique position on the array and is stably associated with the solid substrate. Such an array will be referred to herein as a "pain specific array".

The invention also comprises an array comprising: (a) a plurality of polynucleotide members, wherein each of said plurality of polynucleotides is selected from the group consisting of: (i) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene"; (ii) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (1) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (2) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein"; (iii) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (i) to (ii) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (iv) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (i) to (iii) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the



column designated "identifier"; (v) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (i) to (iv) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; and (b) a solid substrate, wherein each polynucleotide member has a unique position on said array and is stably associated with said solid substrate.

In one embodiment, the plurality of polynucleotide members is differentially expressed by at least 1.2 fold across at least three replicate assays of expression in neuronal tissue of an animal subjected to pain with a p-value of less than 0.05 relative to an animal not subjected to the pain.

In one embodiment, the plurality of polynucleotide members is differentially expressed by at least 1.4 fold in the neurons of the animal subjected to pain relative to an animal not subjected to the pain.

In a further embodiment, the array comprises from 10 to 20,000 polynucleotide members.

In one embodiment, the array further comprises negative and positive control sequences and quality control sequences selected from the group consisting of cDNA sequences encoded by housekeeping genes, plant gene sequences, bacterial sequences, PCR products and vector sequences.

The invention further provides a method of identifying an agent that increases or decreases the expression of a polynucleotide sequence that is differentially expressed in neuronal tissue of a first animal which is subjected to pain comprising: administering the agent to the first animal; hybridizing nucleic acid isolated from one or more sensory neurons of the first and a second animal to a pain specific array; and measuring the hybridization of the nucleic acid isolated from the neuronal tissue of the first and second animal to the array; wherein an increase in hybridization of the nucleic acid from the first animal to one or more nucleic acid members of the array relative to hybridization of the nucleic acid from a second animal which is subjected to pain but to which is not administered the agent to one or more nucleic acid members of the array identifies the agent as increasing the expression of the polynucleotide sequence, and wherein a decrease in hybridization of the nucleic acid from the first animal to one or more nucleic acid members of the array relative to the hybridization of

the nucleic acid from second animal to one or more nucleic acid members of the array identifies the agent as decreasing the expression of the polynucleotide sequence.

In one embodiment, the preceeding method further comprises the step of verifying the increase or decrease in the hybridization by a molecular procedure selected from the group consisting of Northern analysis, *in situ* hybridization, and PCR.

In one embodiment, the nucleic acid sample isolated from the first and second animal is labeled with a detectable label prior to the hybridization to the array.

In a further embodiment, the nucleic acid sample isolated from the first animal is labeled with a different detectable label than the nucleic acid sample isolated from the second animal.

The invention also provides a method for identifying a compound which regulates the expression of a polynucleotide sequence which is differentially expressed in an animal subjected to pain, comprising: (a) providing a cell comprising and capable of expressing one or more of the polynucleotide selected from the group consisting of: (i) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene"; (ii) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (1) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (2) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein"; (iii) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (i) to (ii) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (iv) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (i) to (iii) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (v) a polynucleotide which represents a fragment, derivative or allelic variation

of a nucleic acid sequence specified in (i) to (iv) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (b) contacting said cell with a candidate compound; and (c) measuring the expression of said one or more of the polynucleotide specified supra, wherein if the expression of said differentially expressed polynucleotide sequence is increased in an animal which is subjected to pain, then said candidate modulator will be considered to regulate the expression of said polynucleotide if the expression of said polynucleotide is decreased by at least 10% in the presence of said candidate modulator, and wherein if the expression of said differentially expressed polynucleotide sequence is decreased in an animal subjected to pain, then said candidate modulator will be considered to regulate the expression of said polynucleotide if the expression of said polynucleotide is increased by at least 10% in the presence of said candidate modulator.

The invention also provides a method for identifying a compound which regulates the expression of a polynucleotide sequence which is differentially expressed in an animal subjected to pain, comprising: providing a cell comprising and capable of expressing one or more of the polynucleotide sequences shown in Tables 1, 2, 3, 4, or 5; contacting the cell with a candidate compound; and measuring the expression of the one or more of the polynucleotide sequences shown in Tables 1, 2, 3, 4, or 5, wherein an increase or decrease in the expression of the one or more of the polynucleotide sequences shown in Table 1, 2, 3, 4, or 5 of at least 10% is indicative of regulation of the differentially expressed polynucleotide sequence.

The invention still further provides a method for identifying a compound which regulates the activity of one or more of the polypeptides shown in Table 1, 2, 3, 4, or 5, or the activity of a polypeptide encoded by a polynucleotide sequence indicated in Table 1, 2, 3, 4, or 5 comprising: providing a cell comprising the one or more polypeptides; contacting the cell with a candidate compound; and measuring the activity of the one or more polypeptides, wherein an increase or decrease of the activity of the one or more polypeptides of at least 10% relative to the activity of the one or more polypeptides in the cell, wherein the cell is not contacted with the candidate compound, identifies the candidate compound as a compound which regulates the activity of the one or more polypeptides.

In one embodiment, the candidate compound is selected from the group consisting of small molecule, protein, RNAi, and antisense.

In a further embodiment, the candidate compound is an antibody which binds to the polypeptide.

The invention also provides a method for producing a pharmaceutical formulation comprising: providing a cell comprising the one or more polypeptides; selecting a compound which regulates the activity of the one or more polypeptides; and mixing the compound with a carrier.

In one embodiment, the step of selecting comprises the steps of contacting the cell with a candidate compound; and measuring the activity of the one or more polypeptides, wherein an increase or decrease of the activity of the one or more polypeptides of at least 10% relative to the activity of the one or more polypeptides in the cell, wherein the cell is not contacted with the candidate compound, identifies the candidate compound as a compound which regulates the activity of the one or more polypeptides.

The invention also provides a method for producing a pharmaceutical formulation comprising: (a) providing a cell comprising said one or more polypeptides encoded by a polynucleotide selected from the group consisting of: (i) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene"; (ii) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (1) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (2) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein"; (iii) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (i) to (ii) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (iv) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (i) to (iii) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (v) a polynucleotide which represents a fragment, derivative or allelic variation

of a nucleic acid sequence specified in (i) to (iv) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (b) selecting a compound which regulates the activity of said one or more polypeptides; and (c) mixing said compound with a carrier.

In one embodiment, the step of selecting comprises the steps of contacting said cell with a candidate compound; and measuring the activity of said one or more polypeptides, wherein an increase or decrease of the activity of said one or more polypeptides of at least 10% relative to the activity of said one or more polypeptides in said cell, wherein the cell is not contacted with the candidate compound, identifies said candidate compound as a compound which regulates the activity of said one or more polypeptides

The invention also provides a method for identifying a compound which regulates the activity, in an animal, of one or more of the polypeptides shown in Table 1, 2, 3, 4, or 5, or a polypeptide encoded by one or more polynucleotide sequence indicated in Table 1, 2, 3, 4, or 5 comprising: administering a candidate compound to an animal comprising the one or more polypeptides; and measuring the activity of the one or more polypeptides wherein an increase or decrease of the activity of the polypeptide of at least 10% relative to the activity of the one or more polypeptides in an animal to which the candidate compound is not administered, identifies the candidate compound as a compound which regulates the activity of the one or more polypeptides.

Preferably, the candidate compound is selected from the group consisting of small molecule, protein, RNAi, and antisense.

In one embodiment, the candidate compound is an antibody which binds to the polypeptide.

The invention still further provides a method for identifying a small molecule which regulates the activity of one or more of the polypeptides indicated in Table 1, 2, 3, 4, or 5, or a polypeptide encoded by one or more polynucleotides indicated in Table 1, 2, 3, 4, or 5 comprising: providing a cell comprising the one or more polypeptides; generating a small molecule library; providing a candidate small molecule, selected from the library; contacting the cell with the candidate small molecule; and measuring the activity of the one or more polypeptides, wherein an increase or decrease of the activity of the one or more polypeptides of at least 10% relative to the activity of the one or more polypeptides in the cell, wherein the

cell is not contacted with the candidate small molecule, identifies the candidate small molecule as a small molecule which regulates the activity of the one or more polypeptides.

Preferably, the small molecule library comprises components selected from the group consisting of heterocyclics, aromatics, alicyclics, aliphatics, steroids, antibiotics, enzyme inhibitors, ligands, hormones, alkaloids, opioids, terpenes, porphyrins, toxins, and catalysts, and combinations thereof.

The invention also relates to a method for identifying a small molecule which regulates the activity of one or more of the polypeptides indicated in Table 2, comprising: (a) providing a cell comprising said one or more polypeptides encoded by a polynucleotide selected from the group consisting of: (i) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene"; (ii) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (1) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (2) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein"; (iii) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (i) to (ii) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (iv) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (i) to (iii) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (v) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (i) to (iv) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (b) generating a small molecule library; (c) providing a candidate small molecule, selected from said library; (d) contacting said cell with said candidate small molecule; and (e) measuring the activity of said one or more polypeptides, wherein an

increase or decrease of the activity of said one or more polypeptides or at least 10% relative to the activity of said one or more polypeptides in said cell, wherein the cell is not contacted with the candidate small molecule, identifies said candidate small molecule as a small molecule which regulates the activity of said one or more polypeptides.

The invention further relates to a method for identifying a compound useful in the treatment of pain, comprising: providing a host cell comprising a vector comprising one or more of the polynucleotides identified in Table 1, 2, 3, 4, or 5; maintaining the host cell under conditions which permit the expression of the one or more polynucleotides; selecting a compound which regulates the activity of a polypeptide encoded by the one or more polynucleotides; administering the compound to an animal subjected to pain; and measuring the level of pain in the animal, wherein a decrease in the level of pain in the animal of at least 10%, identifies the compound as being useful for treating pain.

In one embodiment, the step of selecting includes the steps of contacting the cell with a candidate compound; and measuring the activity of the polypeptide encoded by the one or more polynucleotides, wherein an increase or decrease of the activity of the polypeptide of at least 10% relative to the activity of the polypeptide in the cell, wherein the cell is not contacted with the candidate compound, identifies the candidate compound as a compound which regulates the activity of the polypeptide.

The invention further provides a method for identifying a compound useful in the treatment of pain, comprising: (a) providing a host cell comprising a vector comprising one or more of the polynucleotides selected from the group consisting of: (i) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene"; (ii) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (1) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (2) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein"; (iii) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (i) to (ii)

and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (iv) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (i) to (iii) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (v) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (i) to (iv) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (b) maintaining said host cell under conditions which permit the expression of said one or more polynucleotides; (c) selecting a compound which regulates the activity of a polypeptide encoded by said one or more polynucleotides; (d) administering said compound to an animal subjected to pain; and (e) measuring the level of pain in said animal, wherein a decrease in the level of pain in said animal of at least 10%, identifies said compound as being useful for treating pain.

In one embodiment, the step of selecting includes the steps of contacting said cell with a candidate compound; and measuring the activity of the polypeptide encoded by said one or more polynucleotides, wherein an increase or decrease of the activity of said polypeptide of at least 10% relative to the activity of said polypeptide in said cell, wherein the cell is not contacted with the candidate compound, identifies said candidate compound as a compound which regulates the activity of said polypeptide.

The invention also provides a method of treating pain in an animal comprising administering to the animal an antisense polynucleotide capable of inhibiting the expression of one or more of the polynucleotide sequences indicated in Table 1, 2, 3, 4, or 5.

The invention further provides a method of treating pain in an animal comprising administering to the animal a double stranded RNA molecule wherein one of the strands of the double stranded RNA molecule is identical to a portion of an mRNA transcript obtained from one or more of the polynucleotide sequences indicated in Table 1, 2, 3, 4, or 5.

The invention still further provides a method of treating pain in an animal in need thereof, comprising: administering to the animal a therapeutically effective amount of an agent which modulates the activity of one or more of the polypeptides indicated in Table 1, 2, 3, 4, or 5, or a polypeptide encoded by one or more of the polynucleotides indicated in Table 1, 2, 3, 4, or 5.



The invention also provides a method of treating pain in an animal in need thereof, comprising: administering a therapeutically effective amount of an antibody which binds to one or more of the polypeptides indicated in Table 1, 2, 3, 4, or 5, or a polypeptide encoded by one or more of the polynucleotides indicated in Table 1, 2, 3, 4, or 5.

The invention still further provides a method of treating pain in an animal in need thereof, comprising: administering a therapeutically effective amount of one or more of the polypeptides indicated in Table 1, 2, 3, 4, or 5, or a polypeptide encoded by one or more of the polynucleotides indicated in Table 1, 2, 3, 4, or 5.

The invention also provides a pharmaceutical formulation comprising one or more polypeptides indicated in Table 1, 2, 3, 4, or 5, or a polypeptide encoded by one or more of the polynucleotides indicated in Table 1, 2, 3, 4, or 5, and a carrier.

The invention also provides a pharmaceutical formulation comprising one or more antibodies which bind to one or more of the polypeptides indicated in Table 1, 2, 3, 4, or 5, or a polypeptide encoded by one or more of the polynucleotides indicated in Table 1, 2, 3, 4, or 5, and a carrier.

The invention further relates to the use of: (a) a polynucleotide selected from the group consisting of: (i) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene"; (ii) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (1) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (2) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein"; (iii) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (a) to (b) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (iv) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (a) to (c) due to the degeneration of the genetic code and encodes a polypeptide

exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (v) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a) to (d) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (vi) a polypeptide encoded by any of the polynucleotides specified in (i) to (v); in the preparation of a medicament for the treatment of pain in an animal.

The present invention still further relates to the use of a compound which can modulate the activity of a polypeptide which is encoded by a polynucleotide selected from the group consisting of: (a) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene"; (b) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (i) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (ii) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein"; (c) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (a) to (b) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (d) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (a) to (c) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (e) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a) to (d) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; in the preparation of a medicament for the treatment of pain in an animal.

The present invention provides a pharmaceutical formulation comprising one or more polypeptides encoded by a polynucleotide selected from the group consisting of: (a) a

polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene"; (b) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (i) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (ii) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein"; (c) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (a) to (b) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (d) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (a) to (c) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (e) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a) to (d) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; and a carrier.

The invention still further provides a pharmaceutical formulation comprising one or more antibodies which bind to one or more of the polypeptides encoded by a polynucleotide selected from the group consisting of: (a) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene"; (b) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (i) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (ii) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein"; (c) a polynucleotide which hybridizes

under high stringency conditions to a polynucleotide specified in (a) to (b) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (d) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (a) to (c) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (e) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a) to (d) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; and a carrier.

According to the invention, a sequence differentially expressed under pain conditions must be differentially expressed in the neurons of an animal subjected to nerve injury, or inflammatory pain, thus differential expression in an animal subjected to nerve injury pain is determined, according to the invention, in one or all of the following nerve injury pain models. A sequence which is differentially expressed according to the invention is a sequence which is differentially expressed in (1) an axotomy pain model, (2) a spared nerve injury pain model, (3) chronic constriction pain model, (4) spinal segmental nerve lesion pain model, or (5) an inflammation pain model, or may be differentially expressed in all five pain models.

As used herein differential expression of a sequence in nerve tissue is determined in either a "nerve injury pain model" or a "inflammation pain model", or both. There are four alternate nerve injury pain models by which differential expression can be determined according to the invention: axotomy, spared nerve injury (SNI), spinal segmental nerve lesion, and chronic constriction.

As used herein, an "axotomy pain model" refers to a situation in which one or a plurality of peripheral nerve fibers is severed, either by traumatic injury or experimental or surgical manipulation. An "axotomy pain model" may further refer to an experimental model in which all of the axons of a given population of nerve cells are completely severed. For example, an "axotomy pain model" useful in the present invention may be a model in which all of the axons that comprise the sciatic nerve are surgically cut. All of the nerve cells in the dorsal root ganglion which gave rise to the axons of the sciatic nerve are thus said to be "axotomized".

As used herein, a “spared nerve injury pain model” refers to a situation in which one of the terminal branches of the sciatic nerve is spared from axotomy (Decosterd and Woolf, 2000 *Pain* 87: 149). The SNI procedure comprises an axotomy and ligation of the tibial and common peroneal nerves leaving the sural nerve intact.

As used herein, a “spinal segmental nerve lesion” and “chronic constriction” refer to two types of “neuropathic pain models” useful in the present invention. Both models are well known to those of skill in the art (See, for example Kim and Chung, 1992 *Pain* 50: 355; and Bennett, 1993 *Muscle Nerve* 16: 1040 for a description of the “segmental nerve lesion” and “chronic constriction” respectively). A “segmental nerve lesion” and/or “chronic constriction” neuropathic pain model may be evaluated for the presence of “pain” using any of the behavioral, electrophysiological, and/or neurochemical criteria described below.

As used herein, an “inflammatory pain model” refers to a situation in which an animal is subjected to pain, as defined herein, by the induction of peripheral tissue inflammation (Stein et al., (1988) *Pharmacol Biochem Behav* 31: 445-451; Woolf et al., (1994) *Neurosci.* 62, 327-331). The inflammation can be produced by injection of an irritant such as complete Freund's adjuvant (CFA), carrageenan, turpentine, croton oil, and the like into the skin, subcutaneously, into a muscle, into a joint, or into a visceral organ. In addition, an “inflammatory pain model” can be produced by the administration of cytokines or inflammatory mediators such as lipopolysaccharide (LPS), or nerve growth factor (NGF) which can mimic the effects of inflammation. An “inflammatory pain model” can be evaluated for the presence of “pain” using behavioral, electrophysiological, and/or neurochemical criteria as described below.

A polynucleotide is thus differentially expressed herein if it is differentially expressed in any or all of the axotomy, SNI, chronic constriction, segmental nerve lesion and inflammatory pain models.

As used herein, “nerve tissue” refers to animal tissue comprising nerve cells, the neuropil, glia, neural inflammatory cells, and endothelial cells in contact with “nerve tissue”. “Nerve cells” may be any type of nerve cell known to those of skill in the art including, but not limited to motor neurons, sensory neurons, enteric neurons, sympathetic neurons, parasympathetic neurons, association neurons, and central nervous system neurons. “Glial cells” useful in the present invention include, but are not limited to astrocytes, schwann cells,

and oligodendrocytes. "Neural inflammatory cells" useful in the present invention include, but are not limited to microglia. Preferably, "nerve tissue" as used herein refers to nerve cells obtained from the dorsal root ganglion, or dorsal horn of the spinal cord.

As used herein, "sensory neuron" refers to any sensory neuron in an animal. A "sensory neuron" can be a peripheral sensory neuron, central sensory neuron, or enteric sensory neuron. A "sensory neuron" includes all parts of a neuron including, but not limited to the cell body, axon, and dendrite(s). A "sensory neuron" refers to a neuron which receives and transmits information (encoded by a combination of action potentials, neurotransmitters and neuropeptides) relating to sensory input, including, but not limited to pain, heat, touch, cold, pressure, vibration, etc. Examples of "sensory neurons" include, but are not limited to dorsal root ganglion neurons, dorsal horn neurons of the spinal cord, autonomic neurons, trigeminal ganglion neurons, and the like.

As used herein, "animal" refers to a organism classified within the phylogenetic kingdom Animalia. As used herein, an "animal" also refers to a mammal. Animals, useful in the present invention, include, but are not limited to mammals, marsupials, mice, dogs, cats, cows, humans, deer, horses, sheep, livestock, and the like.

As used herein, "subjected" refers to a state of being in which an animal is experiencing pain, wherein whether or not the animal is experiencing pain is determined using the behavioral, electrophysiological, and/or neurochemical criteria described above. As used herein, "subjected" does not refer to the past experience of pain only, but can also include the present experience of pain.

As used herein, "polynucleotide" refers to a polymeric form of nucleotides of 2 up to 1,000 bases in length, or even more, either ribonucleotides or deoxyribonucleotides or a modified form of either type of nucleotide. The term includes single and double stranded forms of DNA. The term is synonymous with "oligonucleotide". Polynucleotides of the invention include those indicated by accession number in Tables 1, 2, 3, 4, or 5, or a portion thereof.

As used herein, "polypeptide" refers to any kind of polypeptide such as peptides, human proteins, fragments of human proteins, proteins or fragments of proteins from non-human sources, engineered versions proteins or fragments of proteins, enzymes, antigens, drugs, molecules involved in cell signalling, such as receptor molecules, antibodies, including

polypeptides of the immunoglobulin superfamily, such as antibody polypeptides or T-cell receptor polypeptides. Preferably, a "polypeptide" useful according to the invention is indicated by accession number in Tables 1, 2, 3, 4, or 5. Also included, are a fragment, domain, or epitope of one or more of the polypeptides indicated in Tables 2, 3, 4, or 5 provided that the fragment, domain, or epitope maintains the same function as the protein indicated in Table 2, 3, 4, or 5, wherein the function of the polypeptide is known to those of skill in the art. Also included, are a fragment, domain, or epitope of one or more of the polypeptides indicated in Tables 2 or 3 provided that the fragment, domain, or epitope maintains the same function as the protein indicated in Table 2 or 3, under the column heading "identifier", "description" or "protein type"

As used herein, the term "vector" refers to a nucleic acid molecule capable of transporting another nucleic acid to which it has been linked. One type of vector is a "plasmid", which refers to a circular double stranded nucleic acid loop into which additional nucleic acid segments can be ligated. Another type of vector is a "viral vector", wherein additional nucleic acid segments can be ligated into the viral genome. Certain vectors are capable of autonomous replication in a host cell into which they are introduced (e.g., bacterial vectors having a bacterial origin of replication and episomal mammalian vectors). Other vectors (e.g., non-episomal mammalian vectors) are integrated into the genome of a host cell upon introduction into the host cell, and thereby are replicated along with the host genome. Moreover, certain vectors are capable of directing the expression of genes to which they are operatively linked. Such vectors are referred to herein as "expression vectors". In general, expression vectors of utility in recombinant nucleic acid techniques are often in the form of plasmids. In the present specification, "plasmid" and "vector" can be used interchangeably as the plasmid is the most commonly used form of vector. However, the invention is intended to include such other forms of expression vectors, such as viral vectors (e.g., replication defective retroviruses, adenoviruses and adeno-associated viruses), which serve equivalent functions.

As used herein, the term "hybridizing" or "hybridization" refers to the hydrogen binding with a complementary nucleic acid, via an interaction between for example, a target nucleic acid sequence and a nucleic acid member in an array.

Typically, selective hybridization occurs when two nucleic acid sequences are substantially complementary (at least about 65% complementary over a stretch of at least 14

to 25 nucleotides, preferably at least about 75%, more preferably at least about 90% complementary). See Kanehisa, M., 1984, *Nucleic Acids Res.* 12: 203, incorporated herein by reference. As a result, it is expected that a certain degree of mismatch is tolerated. Such mismatch may be small, such as a mono-, di- or tri-nucleotide. Alternatively, a region of mismatch may encompass loops, which are defined as regions in which there exists a mismatch in an uninterrupted series of four or more nucleotides.

Numerous factors influence the efficiency and selectivity of hybridization of two nucleic acids, for example a nucleic acid member to a target nucleic acid sequence. These factors include nucleic acid member length, nucleotide sequence and/or composition, hybridization temperature, buffer composition and potential for steric hindrance in the region to which the nucleic acid member is required to hybridize.

A positive correlation exists between the nucleic acid member length and both the efficiency and accuracy with which a nucleic acid member will anneal to a target sequence. In particular, longer sequences have a higher melting temperature ( $T_M$ ) than do shorter ones, and are less likely to be repeated within a given target sequence, thereby minimizing promiscuous hybridization. Hybridization temperature varies inversely with nucleic acid member annealing efficiency, as does the concentration of organic solvents, e.g., formamide, that might be included in a hybridization mixture, while increases in salt concentration facilitate binding. Under stringent annealing conditions, longer nucleic acids, hybridize more efficiently than do shorter ones, which are sufficient under more permissive conditions. As herein used, the term "standard stringent conditions" means hybridization will occur only if there is at least 95% and preferably at least 97% identity between the sequences, wherein the region of identity comprises at least 10 nucleotides. In one embodiment, the sequences hybridize under stringent conditions following incubation of the sequences overnight at 42°C, followed by stringent washes (0.2X SSC at 65° C). As several factors affect the stringency of hybridization, the combination of parameters is more important than the absolute measure of a single factor.

As defined herein, an "array" refers a plurality of unique nucleic acids attached to one surface of a solid support at a density exceeding 20 different nucleic acids/cm<sup>2</sup> wherein each of the nucleic acids is attached to the surface of the solid support in a non-identical preselected region. In one embodiment, the nucleic acid attached to the surface of the solid support is DNA. In a preferred embodiment, the nucleic acid attached to the surface of the



solid support is cDNA. In another preferred embodiment, the nucleic acid attached to the surface of the solid support is cDNA synthesized by polymerase chain reaction (PCR). Preferably, a nucleic acid comprising an array, according to the invention, is at least 20 nucleotides in length. Preferably, a nucleic acid comprising an array is less than 6,000 nucleotides in length. More preferably, a nucleic acid comprising an array is less than 500 nucleotides in length. In one embodiment, the array comprises at least 500 different nucleic acids attached to one surface of the solid support. In another embodiment, the array comprises at least 10 different nucleic acids attached to one surface of the solid support. In yet another embodiment, the array comprises at least 10,000 different nucleic acids attached to one surface of the solid support. The term "nucleic acid", as used herein, is interchangeable with the term "polynucleotide".

As used herein, "plurality" refers to more than two. Plurality, according to the invention, can be 3 or more, 100 or more, or 1000 or more.

As used herein, "attaching" or "spotting" refers to a process of depositing a nucleic acid onto a solid substrate to form a nucleic acid array such that the nucleic acid is irreversibly bound to the solid substrate via covalent bonds, hydrogen bonds or ionic interactions.

As used herein, "stably associated" refers to a nucleic acid that is irreversibly bound to a solid substrate to form an array via covalent bonds, hydrogen bonds or ionic interactions such that the nucleic acid retains its unique preselected position relative to all other nucleic acids that are stably associated with an array, or to all other preselected regions on the solid substrate under conditions wherein an array is analyzed (i.e., hybridization and scanning).

As used herein, "solid substrate" or "solid support" refers to a material having a rigid or semi-rigid surface. The terms "substrate" and "support" are used interchangeable herein with the terms "solid substrate" and "solid support". The solid support may be biological, non-biological, organic, inorganic, or a combination of any of these, existing as particles, strands, precipitates, gels, sheets, tubing, spheres, containers, capillaries, pads, slices, films, plates, slides, etc. Often, the substrate is a silicon or glass surface, (poly)tetrafluoroethylene, (poly)vinylidene difluoride, polystyrene, polycarbonate, a charged membrane, such as nylon 66 or nitrocellulose, or combinations thereof. In a preferred embodiment, the solid support is glass. Preferably, at least one surface of the substrate will be substantially flat. Preferably,

the surface of the solid support will contain reactive groups, including, but not limited to, carboxyl, amino, hydroxyl, thiol, or the like. In one embodiment, the surface is optically transparent.

As used herein, "preselected region", "predefined region", or "unique position" refers to a localized area on a substrate which is, was, or is intended to be used for the deposit of a nucleic acid and is otherwise referred to herein in the alternative as a "selected region" or simply a "region." The preselected region may have any convenient shape, e.g., circular, rectangular, elliptical, wedge-shaped, etc. In some embodiments, a preselected region is smaller than about  $1\text{ cm}^2$ , more preferably less than  $1\text{ mm}^2$ , still more preferably less than  $0.5\text{ mm}^2$ , and in some embodiments about  $0.125$  to  $0.5\text{ mm}^2$ .

As used herein, "unique to Table X", where "X" is one or more of 2, 3, 4, or 5, refers to a polynucleotide or polypeptide sequence which is indicated in Table X, but is not indicated in Table 1.

As used herein, the term "level of expression" refers to the measurable expression level of a given nucleic acid. The level of expression of a nucleic acid is determined by methods well known in the art. The term "differentially expressed" or "differential expression" refers to an increase or decrease in the measurable expression level of a given nucleic acid. As used herein, "differentially expressed" or "differential expression" means the difference in the level of expression of a nucleic acid is at least 1.4-fold or more in two samples used for comparison, both of which are compared to the same normal standard sample. "Differentially expressed" or "differential expression" according to the invention also means a 1.4-fold, or more, up to and including 2-fold, 5-fold, 10-fold, 20-fold, 50-fold or more difference in the level of expression of a nucleic acid in two samples used for comparison. A nucleic acid is also said to be "differentially expressed" in two samples if one of the two samples contains no detectable expression of a given nucleic acid, provided that the detectably expressed nucleic acid is expressed at +/- at least 1.4 fold. Differential expression of a nucleic acid sequence is "inhibited" the difference in the level of expression of the nucleic acid in two or more samples used for comparison is altered such that it is no longer at least a 1.4 fold difference. Absolute quantification of the level of expression of a nucleic acid may be accomplished by including a known concentration(s) of one or more control nucleic acid species, generating a standard curve based on the amount of the control

nucleic acid and extrapolating the expression level of the “unknown” nucleic acid species from the hybridization intensities of the unknown with respect to the standard curve.

Alternatively, “differential expression”, according to the invention, refers to a 1.2 fold increase or decrease in the level of expression of a nucleic acid in an animal subjected to pain compared to the level of expression in an animal not subjected to the same pain, combined with a statistical significance of  $p < 0.05$  in at least three replicate assays of gene expression. Calculation of a statistically significant 1.2 fold threshold in the increase or decrease in the difference of expression of a nucleic acid, when compared to a normal standard sample is based on a statistical analysis of triplicate array data points using, for example, a student’s t-test. “Differential expression” of a polynucleotide sequence, as used herein, is established if the expression of a sequence measured in several types of animal pain model, such as nerve injury models or an inflammation model, is increased or decreased by at least 1.2 fold in at least one of the pain models, and if the differential expression is found to be significant across three replicate analyses of differential expression in an animal pain model. Alternatively, a differentially expressed polynucleotide may be differentially expressed in several animal pain models.

The “level of expression” is measured by hybridization analysis using labeled target nucleic acids according to methods well known in the art (see, for example, Ausubel et al., Short Protocols in Molecular Biology, 3<sup>rd</sup> Ed. 1995, John Wiley and Sons, Inc.). The label on the target nucleic acid is a luminescent label, an enzymatic label, a radioactive label, a chemical label or a physical label. Preferably, the target nucleic acids are labeled with a fluorescent molecule. Preferred fluorescent labels include fluorescein, amino coumarin acetic acid, tetramethylrhodamine isothiocyanate (TRITC), Texas Red, Cy3 and Cy5.

As used herein, “differential expression” when measured using microarray hybridization as described herein, can be determined using one or more of three alternate measurements: (1) The hybridization intensity can be measured by comparing the level of hybridization of nucleic acid samples obtained from a naïve animal to the level of hybridization of nucleic acid samples from an animal subjected to any of the pain models described herein. This measurement is termed the “intensity ratio”. (2) Alternatively, a method of measuring “differential expression” is to utilize the “Affymetrix ratio” which is obtained by analyzing the hybridization levels obtained from nucleic acid samples obtained from a naïve animal and those obtained from nucleic acid samples obtained from an animal

subjected to any of the pain models described herein, using the software provided with the Affymetrix Microarray software suite (Affymetrix, Santa Clara, CA). The Affymetrix ratio can be determined by following the protocols included with the Affymetrix brand software and microarray analysis equipment. Whether measured using the intensity ratio or the Affymetrix ratio, a nucleic acid molecule of the present invention is differentially expressed if it demonstrates at least a 1.4 fold change in expression levels in an animal subjected to the neuropathic or inflammation pain as described herein relative to an animal not subjected to the same pain. (3) Preferably, "differential expression" is measured in either a nerve injury model, or inflammation pain model, or both, at multiple time points after an animal has been subjected to pain. "Differential expression" is further measured in at least three replicate samples for each time point, and for multiple pain models (e.g. nerve injury models, an inflammation models), such that a statistical evaluation may be made of the significance of the differential expression. Accordingly, a polynucleotide sequence is "differentially expressed" if it is differentially expressed by at least 1.2 fold, with a p-value of less than 0.05 across at least three replicate expression assays. The fold differential expression, when paired with the statistical analysis of at least three replicate expression assays, can be measured using either of the "intensity ratio" or "affymetrix ratio" described above.

#### DESCRIPTION OF THE DRAWINGS

Figure 1 shows the data from a representative Northern analysis performed on target nucleic acid obtained from dorsal root ganglion neurons from a rat axotomy pain model.

Figure 2 shows the *in situ* hybridization of dorsal root ganglion tissue sections with labeled oligonucleotide probes specific for SNAP, c-jun, or TrkA.

Figure 3 shows the *in situ* hybridization of dorsal root ganglion tissue sections with labeled oligonucleotide probes specific for GTPcylco, IES-JE, CCHL2A, or VGF.

#### DETAILED DESCRIPTION

The present invention is based, in part, on the discovery that the polynucleotides listed in Tables 1, 2, 3, 4, or 5 are differentially expressed by at least +/- 1.4 fold in nerve injury and/or inflammation animal pain models. While the polynucleotides listed in Table 1 have

been previously suggested to be regulated in pain models, the present invention is distinguished over the prior art in that only polynucleotides which demonstrate at least a  $\pm 1.4$  fold change in expression in a neuropathic and/or inflammation animal pain model are considered to be differentially expressed according to the invention. The invention further provides the polynucleotides listed in Tables 2, 3, 4, or 5 which are differentially expressed by at least  $\pm 1.4$  fold in a nerve injury or inflammation animal pain model, but which have not previously been suggested to be regulated in animal pain models (i.e., which are not indicated in Table 1). In addition, the invention provides the polynucleotides listed in Table 2 which have been identified herein as being differentially expressed by at least  $\pm 1.2$  fold in triplicate assays in multiple nerve injury and inflammation pain models, with a p-value of less than 0.05. The invention further provides methods for identifying nucleic acid sequences which are differentially regulated in animals that have been subjected to pain, wherein differential expression is defined as an increase or decrease of the expression of the nucleic acid sequence by at least 1.2 fold compared to the same sequence in an animal which has not been subjected to pain, in triplicate assays with a statistical significance of  $p < 0.05$ . The invention further provides methods for identifying nucleic acid sequences which are differentially regulated in animals that have been subjected to pain, wherein differential expression is defined as an increase or decrease of the expression of the nucleic acid sequence by at least 1.4 fold compared to the same sequence in an animal which has not been subjected to pain. The invention further provides methods of constructing arrays comprising isolated nucleic acid sequences which are differentially regulated in pain, and methods of screening for potential therapeutic compounds which may alter the expression of these sequences using the arrays. The invention also relates to methods for screening for candidate compounds which are capable of regulating the expression of one or more of the polynucleotide sequences of Tables 1, 2, 3, 4, or 5, or which are capable of regulating the activity of one or more of the polypeptides indicated in Table 1, 2, 3, 4, or 5, or a polypeptide encoded by one or more of the polynucleotides indicated in Table 1, 2, 3, 4, or 5, or which are capable of modulating pain in an animal. As described above, animals which have been subjected to pain include animal models of pain, in which the animal has been artificially manipulated to mimic one or more types of pain, including physiological, inflammatory, or neuropathic pain. Animals subjected to pain also include animals which have experienced pain as the result of a traumatic injury, or animals which have experienced physiological, inflammatory, or neuropathic pain not induced in the setting of an animal model.

## Pain

The present invention relates to polynucleotides which are differentially expressed in (a) an animal that is subjected to pain relative to (b) an animal not subjected to pain. According to the invention, the pain to which the animals of (a) and (b) are subjected is the same pain, that is, if a polynucleotide is differentially expressed in an axotomy pain model then the differential expression is relative to the expression of the polynucleotide in an animal which is not an axotomy pain model.

As used herein, "pain" refers to a state-dependent sensory experience generated by the activation of peripheral sensory neurons, the nociceptors. As used herein, "pain" refers to several different types of pain, including physiological or protective pain, inflammatory pain that occurs after tissue damage, and neuropathic pain which occurs after damage to the nervous system. Physiological pain is initiated by sensory nociceptor fibers innervating the peripheral tissues and activated only by noxious stimuli, and is characterized by a high threshold to mechanical and thermal stimuli and rapid, transient responses to such stimuli. Inflammatory and neuropathic pain are characterized by displays of behavior indicating either spontaneous pain, measured by spontaneous flexion, vocalization, biting, or even self mutilation, or abnormal hypersensitivity to normally innocuous stimuli or to noxious stimuli, such as mechanical or thermal stimuli. Regardless of the type of pain, as used herein "pain" can be measured using behavioral criteria, such as thermal and mechanical sensitivity, weight bearing, visceral hypersensitivity, or spontaneous locomotor activity, electrophysiological criteria, such as *in vivo* or *in vitro* recordings from primary sensory neurons and central neurons to assess changes in receptive field properties, excitability or synaptic input, or neurochemical criteria, such as changes in the expression or distribution of neurotransmitters, neuropeptides and proteins in primary sensory and central neurons, activation of signal transduction cascades, expression of transcription factors, or phosphorylation of proteins.

Behavioral criteria used to measure "pain" include, but are not limited to mechanical allodynia and hyperalgesia, and temperature allodynia and hyperalgesia. Mechanical allodynia is generally measured using a series of ascending force von Frey monofilaments. The filaments are each assigned a force which must be applied longitudinally across the filament to produce a bend, or bow in the filament. Thus the applied force which causes an animal to withdraw a limb can be measured (Tal and Bennett, 1994 *Pain* 57: 375). An animal can be said to be experiencing "pain" if the animal demonstrates a withdrawal reflex

in response to a force that is reduced by at least 30% compared to the force that elicits a withdrawal reflex in an animal which is not in "pain". In one embodiment, an animal is said to be experiencing "pain" if the withdrawal reflex in response to a force that is reduced 40%, 50%, 60%, 70%, 80%, 90% and as much as 99% compared to the force required to elicit a similar reflex in a naïve animal.

Mechanical hypersensitivity can be measured by applying a sharp object, such as a pin, to the skin of an animal with a force sufficient to indent, but not penetrate the skin. The duration of withdrawal from the sharp stimulus may then be measured, wherein an increase in the duration of withdrawal is indicative of "pain" (Decostard et al., 1998 *Pain* 76: 159). For example, an animal can be said to be experiencing "pain" if the withdrawal duration following a sharp stimulus is increased by at least 2 fold compared with an animal that is not experiencing "pain". In one embodiment, an animal is said to be experiencing "pain" if the withdrawal duration is increased by 3, 4, 5, 6, 7, 8, 9, and up to 10 fold compared to an animal not experiencing "pain".

Temperature allodynia can be measured by placing a drop of acetone onto the skin surface of an animal using an instrument such as a blunt needle attached to a syringe without touching the skin with the needle. The rapid evaporation of the acetone cools the skin to which it is applied. The duration of the withdrawal response to the cold sensation can then be measured (Choi et al., 1994 *Pain* 59: 369). An animal can be said to be in "pain" if the withdrawal duration following acetone application is increased by at least 2 fold as compared to an animal that is not experiencing "pain". According to the invention an animal can be said to be in "pain" if the withdrawal duration following thermal stimulation is increased by 4, 6, 8, 10, 12, 14, 16, 18, and up to 20 fold compared to an animal not experiencing "pain".

Temperature hyperalgesia can be measured by exposing a portion of the skin surface of an animal, such as the plantar surface of the foot, to a beam of radiant heat through a transparent perspex surface (Hargreaves et al., 1988 *Pain* 32:77). The duration of withdrawal from the heat stimulus may be measured, wherein an increase in the duration of withdrawal is indicative of "pain". An animal can be said to be experiencing "pain" if the duration of the withdrawal from the heat stimulus increases by at least 2 fold compared with an animal that is not experiencing "pain". In addition, an animal can be said to be experiencing "pain" if the duration of the withdrawal from heat stimulus is increased by 3, 4, 5, 6, 7, 8, 9, and up to 10 fold compared with an animal that is not experiencing "pain".

In addition to the behavioral criteria described above, an animal can be deemed to be experiencing "pain" by measuring electrophysiological changes, *in vitro* or *in vivo*, in primary sensory, or central sensory neurons. Electrophysiological changes can include increased neuronal excitability, changes in receptive field input, or increased synaptic input. The technique of measuring cellular physiology is well known to those of skill in the art (see, for example, Hille, 1992 *Ion channels of excitable membranes*. Sinauer Associates, Inc., Sunderland, MA). An increase in neuronal excitability may be identified, for example, by measuring an increase in the number of action potentials per unit time in a given neuron. An animal is said to be experiencing "pain" if there is at least a 2 fold increase in the action potential firing rate compared with an animal that is not experiencing "pain." In addition, an animal can be said to be experiencing "pain" if the action potential firing rate is increased by 3, 4, 5, 6, 7, 8, and up to 10 fold compared to an animal that is not experiencing "pain". An increase in synaptic input to a sensory neuron, either peripheral or central, may be identified, for example, by measuring the rate of end-plate excitatory potentials (EPSPs) recorded in from the neuron. An animal is said to be experiencing "pain" if there is at least a 2 fold, 3, 4, 5, 6, 7, 8, and up to 10 fold increase in the rate of EPSPs recorded from a given neuron compared to an animal that is not experiencing pain.

Alternatively, neurochemical criteria may be used to determine whether or not an animal is experiencing "pain". For example, an animal which has experienced "pain" will display changes in the expression or distribution of neurotransmitters, neuropeptides and protein in primary sensory and central neurons, activation of signal transduction cascades, expression of transcription factors, or phosphorylation of proteins. Gene and protein expression, and phosphorylation of proteins such as transcription factors may be measured using a number of techniques known to those of skill in the art including but not limited to PCR, Southern analysis, Northern analysis, Western analysis, immunohistochemistry, and the like. Examples of signal transduction pathway constituents which may be activated in an animal which is experiencing pain include, but are not limited to ERK, p38, and CREB. Examples of genes which may exhibit enhanced expression include immediate early genes such as *c-fos*, protein kinases such as PKC and PKA. Examples of other proteins which may be phosphorylated in an animal experiencing pain include receptors and ion channels such as the NMDA or AMPA receptors. Regardless of whether the measure is of transcription, translation or phosphorylation an animal can be said to be experiencing "pain" if one measures at least a 2 fold increase or decrease in any of these parameters compared to an



animal not experiencing pain. An animal can be further said to be experiencing "pain" if there is a 3, 4, 5, 6, 7, 8, and up to 10 fold increase in the measurement of any of the above parameters compared to an animal not experiencing "pain".

As used herein, "pain" refers to any of the behavioral, electrophysiological, or neurochemical criteria described above. In addition, "pain" can be assessed using combinations of these criteria.

As used herein, "pain" can refer to "pain" experienced by an animal as a result of accidental trauma (e.g., falling trauma, burn trauma, toxic trauma, etc.), congenital deformity or malformation, infection (e.g., inflammatory pain), or other conditions which are not within the control of the animal experiencing the "pain". Alternatively, "pain" may be inflicted onto an animal by subjecting the animal to one or more "pain models".

The present invention comprises polynucleotide sequences that are differentially expressed in nerve injury pain models, including axotomy, SNL, chronic constriction, and segmental nerve lesion, as well as inflammation pain models. It is also within the scope of the present invention that the polynucleotides described herein as being differentially expressed in nerve injury, or neuropathic pain models may be also differentially expressed in other pain models known to those of skill in the art.

As used herein, a "pain model" refers to any manipulation of an animal during which the animal experiences "pain", as defined above. "Pain models" can be classified as those that test the sensitivity of normal animals to intense or noxious stimuli. These tests include responses to thermal, mechanical, or chemical stimuli. Thermal stimuli is usually hot (42 to 55°C) and includes radiant heat to the tail (the tail flick test) radiant heat to the plantar surface of the hindpaw (the Hargreaves test, *supra*), the hotplate test, and immersion of the hindpaw or tail in hot water. Alternatively, thermal stimuli can be cold stimulus (30° to -10° C), such as immersion in cold water, acetone evaporation or cold plate tests which may be used to test cold pain responsiveness using the thresholds discussed above. The end points are latency to response and the duration of the response as well as vocalization and licking the paw, as described above. Mechanical Stimuli typically involves measurements of the threshold for eliciting a withdrawal reflex of the hindpaw to graded strength monofilament von Frey hairs wherein one can measure the force of the filament required to elicit a reflex. Alternatively, mechanical stimuli can be a sustained pressure stimulus to a paw (e.g., the Ugo Basila

analgesiometer). The duration of response to a standard pin prick can also be measured. Threshold values for identifying a stimulus that causes "pain" to the animal are described above. Chemical Stimuli typically involves the application or injection of a chemical irritant to the skin, muscle joints or internal organs like the bladder or peritoneum. Irritants can include capsaicin, mustard oil, bradykinin, ATP, formalin, or acetic acid. The outcome measures include vocalization, licking the paw, writhing or spontaneous flexion.

Alternatively, a "pain model" can be a test that measures changes in the excitability of the peripheral or central components of the pain neural pathway pain sensitization, termed "peripheral sensitization" and "central sensitization". "Peripheral Sensitization" involves changes in the threshold and responsiveness of high threshold nociceptors which can be induced by: repeated heat stimuli, or application or injection of sensitizing chemicals (e.g. prostaglandins, bradykinin, histamine, serotonin, capsaicin, mustard oil). The outcome measures are thermal and mechanical sensitivity in the area of application/stimulation using the techniques described above in behaving animals or electrophysiological measurements of single sensory fiber receptive field properties either in vivo or using isolated skin nerve preparations. "Central sensitization" involves changes in the excitability of neurons in the central nervous system induced by activity in peripheral pain fibers. "Central sensitization" can be induced by noxious stimuli (e.g., heat) chemical irritants (e.g., injection/application of capsaicin/mustard oil or formalin or electrical activation of sensory fibers). The outcome measures are: behavioral, electrophysiological, and neurochemical.

Alternatively, a "pain model" can refer to those tests that measure the effect of peripheral inflammation on pain sensitivity. The inflammation can be produced by injection of an irritant such as complete Freund's adjuvant, carrageenan, turpentine, croton oil etc into the skin, subcutaneously, into a muscle into a joint or into a visceral organ. Production of a controlled UV light burn and ischaemia can also be used. Administration of cytokines or inflammatory mediators such as lipopolysaccharide (LPS), or nerve growth factor (NGF) can mimic the effects of inflammation. The outcome of these models may also be measured as behavioral, electrophysiological, and/or neurochemical changes.

Further, a "pain model" includes those tests that mimic peripheral neuropathic pain using lesions of the peripheral nervous system. Examples of such lesions include, but are not limited to complete transection of a peripheral nerve (axotomy; Watson, 1973, *J. Physiol.* 231:41), ligation of a spinal segmental nerve (Kim and Chung, 1992, *Pain*, 50:355-63),

partial nerve injury (Seltzer, 1979, *Pain*, 29: 1061), Spared Nerve Injury model (Decosterd and Woolf, 2000, *Pain* 87:149), chronic constriction injury (Bennett, 1993 *Muscle Nerve* 16: 1040), toxic neuropathies, such as diabetes (streptozocin model), pyridoxine neuropathy, taxol, vincristine and other antineoplastic agent-induced neuropathies, ischaemia to a nerve, peripheral neuritis models (e.g., CFA applied perineurally), models of postherpetic neuralgia using HSV infection. Such neuropathic pain models are also referred to herein as a "nerve injury pain model". The outcome of these neuropathic or nerve injury "pain models" can be measured using behavioral, electrophysiological, and/or neurochemical criteria as described above.

In addition, a "pain model" refers to those tests that mimic central neuropathic pain using lesions of the central nervous system. For example, central neuropathic pain may be modeled by mechanical compressive, ischemic, infective, or chemical injury to the spinal cord of an animal. The outcome of such a model is measured using the behavioral, electrophysiological, and/or neurochemical criteria described above.

#### Identification of Nucleic Acid Sequences Differentially Expressed in Pain

In one embodiment, the present invention provides isolated nucleic acid sequences which are differentially regulated in an animal which has been subjected to neuropathic pain relative to an animal not subjected to neuropathic pain, and a method for identifying such sequences. The present invention provides a method for identifying a nucleotide sequence which is differentially regulated in an animal subjected to pain, comprising: hybridizing a nucleic acid sample corresponding to RNA obtained from the animal to a nucleic acid sample comprising one or more nucleic acid molecules of known identity; and measuring the hybridization of the nucleic acid sample to the one or more nucleic acid molecules of known identity, wherein a 1.4 fold difference in the hybridization of the nucleic acid sample to the one or more nucleic acid molecules of known identity relative to a nucleic acid sample obtained from an animal which has not been subjected to the same pain is indicative of the differential expression of the nucleotide sequence in an animal subjected to pain.

Alternatively, the invention provides a method for identifying a nucleotide sequence which is differentially regulated in an animal subjected to pain, comprising: hybridizing at least three replicates of a nucleic acid sample corresponding to RNA obtained from the animal to at least three replicates of a nucleic acid sample comprising one or more nucleic acid molecules of known identity and measuring the hybridization of the nucleic acid sample to the one or more

nucleic acid molecules of known identity for each of said replicates. A 1.2 fold difference in the hybridization, and a p-value of less than 0.05 across the replicates, of the nucleic acid sample to the one or more nucleic acid molecules of known identity relative to a nucleic acid sample obtained from an animal which has not been subjected to pain is indicative of the differential expression of the nucleotide sequence in the animal subjected to pain

Generally, the present invention provides a method for identifying nucleic acid sequences which are differentially regulated in an animal which has been subjected to pain comprising isolating messenger RNA from an animal, generating cRNA from the mRNA sample, hybridizing the cRNA to a microarray comprising a plurality of nucleic acid molecules stably associated with discrete locations on the array, and identifying patterns of hybridization of the cRNA to the array. According to the present invention, a nucleic acid molecule which hybridizes to a given location on the array is said to be differentially regulated if the hybridization signal is at least 1.4 fold higher or lower than the hybridization signal at the same location on an identical array hybridized with a nucleic acid sample obtained from an animal that has not been subjected to pain. Alternatively, at least three independent replicate RNA samples are generated and hybridized to at least three replicate arrays, such that statistical significance may be conferred to the fold change in expression of a sequence in an animal subjected to pain relative to an animal not subjected to pain, wherein a 1.2 fold change in expression and a p-value of less than 0.05 is indicative of differential expression.

#### *Nucleic Acid Samples*

Nucleic acid samples to be examined for differentially regulated sequences may be obtained from animals using techniques that are well described in the art. In a preferred embodiment of the invention, the animal from which the nucleic acid is obtained is a pain model. In one embodiment, an animal pain model is an experimental model which tests the sensitivity of normal animals to intense or noxious stimuli. These tests include responses to thermal, mechanical, or chemical stimuli. Thermal stimuli is usually hot (42 to 55°C) and includes radiant heat to the tail (the tail flick test) radiant heat to the plantar surface of the hindpaw (the Hargreaves test, *supra*), the hotplate test, and immersion of the hindpaw or tail in hot water. Alternatively, thermal stimuli can be cold stimulus (30° to -10° C), such as immersion in cold water, acetone evaporation or cold plate tests which may be used to test cold pain responsiveness using the thresholds discussed above. The end points are latency to

response and the duration of the response as well as vocalization and licking the paw, as described above. Mechanical stimuli typically involves measurements of the threshold for eliciting a withdrawal reflex of the hindpaw to graded strength monofilament von Frey hairs wherein one can measure the force of the filament required to elicit a reflex. Alternatively, mechanical stimuli can be a sustained pressure stimulus to a paw (e.g., the Ugo Basila analgesiometer). The duration of response to a standard pin prick can also be measured. Threshold values for identifying a stimulus that causes "pain" to the animal are described above. Chemical Stimuli typically involves the application or injection of a chemical irritant to the skin, muscle joints or internal organs like the bladder or peritoneum. Irritants can include capsaicin, mustard oil, bradykinin, ATP, formalin, or acetic acid. The outcome measures include vocalization, licking the paw, writhing or spontaneous flexion. In an alternate embodiment, the animal pain model is designed to measure changes in the excitability of the peripheral or central components of the pain neural pathway pain sensitization, termed peripheral sensitization and central sensitization. Peripheral Sensitization involves changes in the threshold and responsiveness of high threshold nociceptors which can be induced by: repeated heat stimuli, or application or injection of sensitizing chemicals (e.g. prostaglandins, bradykinin, histamine, serotonin, capsaicin, mustard oil). The outcome measures are thermal and mechanical sensitivity in the area of application/stimulation using the techniques described above in behaving animals or electrophysiological measurements of single sensory fiber receptive field properties either in vivo or using isolated skin nerve preparations. Central sensitization involves changes in the excitability of neurons in the central nervous system induced by activity in peripheral pain fibers. Central sensitization can be induced by noxious stimuli (e.g., heat) chemical irritants (e.g., injection/application of capsaicin/mustard oil or formalin or electrical activation of sensory fibers). The outcome measures are: behavioral, electrophysiological, and neurochemical. In a further embodiment, the animal pain model is an experimental model that measures the effect of peripheral inflammation on pain sensitivity. The inflammation can be produced by injection of an irritant such as complete Freund's adjuvant, carrageenan, turpentine, croton oil etc into the skin, subcutaneously, into a muscle into a joint or into a visceral organ using doses and administration techniques that are well known in the art. Production of a controlled UV light burn and ischaemia can also be used. Administration of cytokines or inflammatory mediators such as lipopolysaccharide (LPS), or nerve growth factor (NGF) can mimic the effects of inflammation. The outcome of these models may also be measured as behavioral, electrophysiological, and/or neurochemical changes.

In a preferred embodiment, the animal pain model is a model that mimics peripheral neuropathic pain using lesions of the peripheral nervous system (i.e., a nerve injury model). Examples of such lesions include, but are not limited to complete transection of a peripheral nerve (axotomy; Watson, 1973, *J. Physiol.* 231:41), ligation of a spinal segmental nerve (Kim and Chung, 1992, *Pain*, 50:355-63), partial nerve injury (Seltzer, 1979, *Pain*, 29: 1061), Spared Nerve Injury model (Decosterd and Woolf, 2000, *Pain* 87:149), chronic constriction injury (Bennett, 1993 *Muscle Nerve* 16: 1040), toxic neuropathies, such as diabetes (streptozocin model), pyridoxine neuropathy, taxol, vincristine and other antineoplastic agent-induced neuropathies, ischaemia to a nerve, peripheral neuritis models (e.g., CFA applied perineurally), models of postherpetic neuralgia using HSV infection. The outcome of these neuropathic pain models can be measured using behavioral, electrophysiological, and/or neurochemical criteria as described above. Alternatively, the neuropathic animal pain model may be one which mimics central neuropathic pain using lesions of the central nervous system. For example, central neuropathic pain may be modeled by mechanical compressive, ischemic, infective, or chemical injury to the spinal cord of an animal. The outcome of such a model is measured using the behavioral, electrophysiological, and/or neurochemical criteria described above.

In a further preferred embodiment, the animal pain model is a model which mimics inflammation using injectable irritants and/or inflammatory mediators. Examples of such models include animals which are injected with, for example complete Freund's adjuvant (CFA), carrageenan, turpentine, croton oil, cytokines, lipopolysaccharide (LPS), or nerve growth factor (NGF) (Stein et al., 1988 *Pharmacol Biochem Behav* 31:445; Woolf et al., 1994, *Neuroscience*, 62: 327). The outcome of inflammation pain model can be measured using behavioral, electrophysiological, and/or neurochemical criteria as described above.

Alternatively, nucleic acid samples may be obtained from animals which are not pain models, but which have been subjected to pain as a result of traumatic injury, infection, genetic, or congenital birth defects, and the like. In addition, nucleic acid samples may be obtained from an animal which is not a pain model, and which has not been subjected to pain as a result of a traumatic injury, or infection. Such an animal is termed a "naïve" animal, and the expression of nucleic acid sequences in the naïve animal can be compared to the expression of the same nucleic acid molecules in animals subjected to pain to determine differential expression.

Nucleic acid samples, useful in the present invention for determining differential expression of nucleic acid sequences in an animal subjected to pain may be obtained from any cell of the animal. In a preferred embodiment, the nucleic acid is obtained from one or more sensory neurons of the animal. In a further preferred embodiment the nucleic acid is obtained from the primary sensory neurons of the dorsal root ganglion or dorsal horn of the spinal cord. However, nucleic acid may be obtained from other neurons including, but not limited to cranial nerve nuclei, peripheral and/or central autonomic neurons, enteric neurons, thalamic neurons, and neurons of sensory regions of the cortex such as primary sensory cortex.

Sensory neurons may be obtained from an animal using techniques that are well established in the art. For example, in embodiments where nucleic acid samples are to be obtained from rat dorsal root ganglion (DRG) neurons, rats (whether naïve or pain models) are rapidly killed by decapitation and the DRG is dissected, removed and quickly snap-frozen on a bed of crushed dry ice, or in liquid nitrogen. RNA is then extracted from the tissues, also using techniques that are well known in the art (see, for example, Ausubel *supra*). For example, the tissue is prepared by homogenization in a glass teflon homogenizer in 1 ml denaturing solution (4M guanidinium thiosulfate, 25 mM sodium citrate, pH 7.0, 0.1M 2-ME, 0.5% (w/v) N-laurylsarkosine) per 100mg tissue. Following transfer of the homogenate to a 5-ml polypropylene tube, 0.1 ml of 2 M sodium acetate, pH 4, 1 ml water-saturated phenol, and 0.2 ml of 49:1 chloroform/isoamyl alcohol are added sequentially. The sample is mixed after the addition of each component, and incubated for 15 min at 0-4°C after all components have been added. The sample is separated by centrifugation for 20 min at 10,000 x g, 4°C, precipitated by the addition of 1 ml of 100% isopropanol, incubated for 30 minutes at -20°C and pelleted by centrifugation for 10 minutes at 10,000 x g, 4°C. The resulting RNA pellet is dissolved in 0.3 ml denaturing solution, transferred to a microfuge tube, precipitated by the addition of 0.3 ml of 100% isopropanol for 30 minutes at -20°C, and centrifuged for 10 minutes at 10,000 x g at 4°C. The RNA pellet is washed in 70% ethanol, dried, and resuspended in 100-200µl DEPC-treated water or DEPC-treated 0.5% SDS (Chomczynski and Sacchi, 1987, Anal. Biochem., 162: 156).

Alternatively, total RNA may be extracted from tissues useful in the present invention using Trizol reagent (Invitrogen, Carlsbad, CA), following the manufacturers instructions.

Purity and integrity of RNA is assessed by absorbance at 260/280 nm and separation of RNA samples on a 1% agarose gel followed by inspection under ultraviolet light.

Following total RNA isolation from tissues or cell of an animal useful in the present invention, the RNA is converted to cRNA for use in array hybridization. The preparation of cRNA is well-known and well-documented in the prior art.

In an alternate embodiment, the total RNA is converted to cDNA for use in array hybridization. cDNA may be prepared according to the following method. Total cellular RNA is isolated (as described) and passed through a column of oligo(dT)-cellulose to isolate polyA RNA. The bound polyA mRNAs are eluted from the column with a low ionic strength buffer. To produce cDNA molecules, short deoxythymidine oligonucleotides (12-20 nucleotides) are hybridized to the polyA tails to be used as primers for reverse transcriptase, an enzyme that uses RNA as a template for DNA synthesis. Alternatively, mRNA species are primed from many positions by using short oligonucleotide fragments comprising numerous sequences complementary to the mRNA of interest as primers for cDNA synthesis. The resultant RNA-DNA hybrid is converted to a double stranded DNA molecule by a variety of enzymatic steps well-known in the art (Watson et al., 1992, Recombinant DNA, 2nd edition, Scientific American Books, New York).

#### *Microarray analysis*

In one embodiment, the present invention provides a method for the identification of differentially expressed nucleic acid sequences in pain in which cDNA obtained from sensory neurons of animals subjected to pain is hybridized to a polynucleotide microarray of known genes or ESTs and the hybridization levels of the cDNA to the polynucleotide microarray are measured.

Microarrays, useful in the identification of differentially expressed nucleic acid sequences, may be any microarray known in the art which comprises known sequences. A polynucleotide microarray refers to a plurality of unique nucleic acids attached to one surface of a solid support at a density exceeding 20 different nucleic acids/cm<sup>2</sup> wherein each of the nucleic acids is attached to the surface of the solid support in a non-identical preselected region. In one embodiment, the nucleic acid attached to the surface of the solid support is DNA. In a preferred embodiment, the nucleic acid attached to the surface of the solid support is cDNA. In another preferred embodiment, the nucleic acid attached to the surface of the



solid support is cDNA synthesized by polymerase chain reaction (PCR). Preferably, a nucleic acid comprising an array, according to the invention, is at least 20 nucleotides in length. Preferably, a nucleic acid comprising an array is less than 6,000 nucleotides in length. More preferably, a nucleic acid comprising an array is less than 500 nucleotides in length. In one embodiment, the array comprises at least 500 different nucleic acids attached to one surface of the solid support. In another embodiment, the array comprises at least 10 different nucleic acids attached to one surface of the solid support. In yet another embodiment, the array comprises at least 10,000 different nucleic acids attached to one surface of the solid support.

In a preferred embodiment, the microarray comprises known nucleic acid molecules stably associated with discrete predefined regions, and which are obtained from an animal of the same species as the animal which had been subjected to pain and from which the nucleic acid sample to be tested is obtained. In a preferred embodiment, the microarray is a commercially available microarray which may be obtained from a commercial source such as Affymetrix (Santa Clara, CA). For example, in one embodiment nucleic acid samples are obtained from a rat pain model and are hybridized to a polynucleotide microarray comprising known rat gene sequences and ESTs. In a further preferred embodiment, the microarray is an Affymetrix Gene Chip® array including, but not limited to the human U95 array, the murine U74 array, and the rat U34 array.

In one embodiment three independent replicate nucleic acid samples are prepared from three separate pain model animals (for tissues with a low abundance of nerve cells, such as the DRG, samples from several animals may be pooled to generate a single replicate) are hybridized to at least three replicate polynucleotide arrays, such that a statistical analysis may be performed on the resulting hybridization levels.

#### *Sample preparation*

Prior to hybridization of nucleic acid to the polynucleotide microarray, the nucleic acid samples must be prepared to facilitate subsequent detection of hybridization. The nucleic acid samples obtained from animals that have been subjected to pain (and from naïve animals for the determination of differential expression) are referred to as "probes" for the microarray and are capable of binding to a polynucleotide or nucleic acid member of

complementary sequence through one or more types of chemical bonds, usually through complementary base pairing, usually through hydrogen bond formation.

As used herein, a polynucleotide derived from an mRNA transcript refers to a polynucleotide for which synthesis of the mRNA transcript or a subsequence thereof has ultimately served as a template. Thus, a cDNA reverse transcribed from an mRNA, an RNA transcribed from that cDNA, a DNA amplified from the cDNA, an RNA transcribed from the amplified DNA, etc., are all derived from the mRNA transcript and detection of such derived products is indicative of the presence and/or abundance of the original transcript in a sample. Thus, suitable target nucleic acid samples include, but are not limited to, mRNA transcripts of a gene or genes, cDNA reverse transcribed from the mRNA, cRNA transcribed from the cDNA, DNA amplified from a gene or genes, RNA transcribed from amplified DNA, and the like. The polynucleotide probes used herein are preferably derived from sensory neurons of an animal that has been subjected to pain.

In the simplest embodiment, such a polynucleotide probe comprises total mRNA or a nucleic acid sample corresponding to mRNA (e.g., cDNA) isolated from sensory neurons, ganglia, nuclei, or brain tissue. In another embodiment, the total mRNA is isolated from a given sample using, for example, an acid guanidinium-phenol-chloroform extraction method and polyA<sup>+</sup> mRNA is isolated by oligo dT column chromatography or by using (dT)<sub>n</sub> magnetic beads (see, e.g., Sambrook et al., *Molecular Cloning: A Laboratory Manual* (2nd ed.), Vols. 1-3, Cold Spring Harbor Laboratory, (1989), or *Current Protocols in Molecular Biology*, F. Ausubel et al., ed. Greene Publishing and Wiley-Interscience, New York (1987)). In a preferred embodiment, total RNA is extracted using TRIzol reagent (GIBCO/BRL). Purity and integrity of RNA is assessed by absorbance at 260/280nm and agarose gel electrophoresis followed by inspection under ultraviolet light.

In some embodiments, it is desirable to amplify the probe nucleic acid sample prior to hybridization, for example, when total RNA is obtained from a small population of neurons. One of skill in the art will appreciate that whatever amplification method is used, if a quantitative result is desired, care must be taken to use a method that maintains or controls for the relative frequencies of the amplified polynucleotides. Methods of "quantitative" amplification are well known to those of skill in the art. For example, quantitative PCR involves simultaneously co-amplifying a known quantity of a control sequence using the same primers. This provides an internal standard that may be used to calibrate the PCR

reaction. The high density array may then include probes specific to the internal standard for quantification of the amplified polynucleotide. Detailed protocols for quantitative PCR are provided in PCR Protocols, A Guide to Methods and Applications, Innis et al., Academic Press, Inc. N.Y., (1990).

Other suitable amplification methods include, but are not limited to polymerase chain reaction (PCR) (Innis, et al., PCR Protocols. A guide to Methods and Application. Academic Press, Inc. San Diego, (1990)), ligase chain reaction (LCR) (see Wu and Wallace, Genomics, 4: 560 (1989), Landegren, et al., Science, 241: 1077 (1988) and Barringer, et al., Gene, 89: 117 (1990), transcription amplification (Kwoh, et al., Proc. Natl. Acad. Sci. USA, 86: 1173 (1989)), and self-sustained sequence replication (Guatelli, et al., Proc. Nat. Acad. Sci. USA, 87: 1874 (1990)).

In a particularly preferred embodiment, the probe nucleic acid sample mRNA is reverse transcribed with a reverse transcriptase and a primer consisting of oligo dT and a sequence encoding the phage T7 promoter to provide single stranded DNA template. The second DNA strand is polymerized using a DNA polymerase. After synthesis of double-stranded *cDNA*, T7 RNA polymerase is added and RNA is transcribed from the *cDNA* template. Successive rounds of transcription from each single *cDNA* template results in amplified RNA. Methods of in vitro polymerization are well known to those of skill in the art (see, e.g., Sambrook, supra.) and this particular method is described in detail by Van Gelder, et al., Proc. Natl. Acad. Sci. USA, 87: 1663-1667 (1990) who demonstrate that in vitro amplification according to this method preserves the relative frequencies of the various RNA transcripts. Moreover, Eberwine et al. Proc. Natl. Acad. Sci. USA, 89: 3010-3014 provide a protocol that uses two rounds of amplification via in vitro transcription to achieve greater than  $10^6$  fold amplification of the original starting material thereby permitting expression monitoring even where biological samples are limited.

In order to measure the hybridization of a probe nucleic acid to a polynucleotide array to determine differential expression, the probe nucleic acid is preferable labeled with a detectable label. Any analytically detectable marker that is attached to or incorporated into a molecule may be used in the invention. An analytically detectable marker refers to any molecule, moiety or atom which is analytically detected and quantified.

Detectable labels suitable for use in the present invention include any composition detectable by spectroscopic, photochemical, biochemical, immunochemical, electrical, optical or chemical means. Useful labels in the present invention include biotin for staining with labeled streptavidin conjugate, magnetic beads (e.g., Dynabeads<sup>TM</sup>), fluorescent dyes (e.g., fluorescein, texas red, rhodamine, green fluorescent protein, and the like), radiolabels (e.g., <sup>3</sup>H, <sup>125</sup>I, <sup>35</sup>S, <sup>14</sup>C, or <sup>32</sup>P), enzymes (e.g., horse radish peroxidase, alkaline phosphatase and others commonly used in an ELISA), and colorimetric labels such as colloidal gold or colored glass or plastic (e.g., polystyrene, polypropylene, latex, etc.) beads. Patents teaching the use of such labels include U.S. Pat. Nos. 3,817,837; 3,850,752; 3,939,350; 3,996,345; 4,277,437; 4,275,149; and 4,366,241.

Means of detecting such labels are well known to those of skill in the art. Thus, for example, radiolabels may be detected using photographic film or scintillation counters, fluorescent markers may be detected using a photodetector to detect emitted light. Enzymatic labels are typically detected by providing the enzyme with a substrate and detecting the reaction product produced by the action of the enzyme on the substrate, and colorimetric labels are detected by simply visualizing the colored label.

The labels may be incorporated by any of a number of means well known to those of skill in the art. However, in a preferred embodiment, the label is simultaneously incorporated into the probe during the amplification step in the preparation of the probe polynucleotides. Thus, for example, polymerase chain reaction (PCR) with labeled primers or labeled nucleotides will provide a labeled amplification product. In a preferred embodiment, transcription amplification, as described above, using a labeled nucleotide (e.g. fluorescein-labeled UTP and/or CTP) incorporates a label into the transcribed polynucleotides.

Alternatively, a label may be added directly to the original polynucleotide sample (e.g., mRNA, polyA mRNA, cDNA, etc.) or to the amplification product after the amplification is completed. Means of attaching labels to polynucleotides are well known to those of skill in the art and include, for example nick translation or end-labeling (e.g. with a labeled RNA) and subsequent attachment (ligation) of a polynucleotide linker joining the sample polynucleotide to a label (e.g., a fluorophore).

In a preferred embodiment, the fluorescent modifications are by cyanine dyes e.g. Cy-3/Cy-5 dUTP, Cy-3/Cy-5 dCTP (Amersham Pharmacia) or alexa dyes (Khan, J., Simon, R.,

Bittner, M., Chen, Y., Leighton, S. B., Pohida, T., Smith, P. D., Jiang, Y., Gooden, C. C., Trent, J. M. & Meltzer, P. S. (1998) *Cancer Res.* 58, 50095013.).

In a preferred embodiment, a probe nucleic acid obtained from an animal that has been subjected to pain and a nucleic acid sample obtained from an animal not subjected to pain are co-hybridized to the polynucleotide array. In this embodiment, the two probe samples used for comparison are labeled with different fluorescent dyes which produce distinguishable detection signals, for example, probes made from an animal pain model are labeled with Cy5 and probes made from a naïve animal are labeled with Cy3. The differently labeled target samples are hybridized to the same microarray simultaneously. In a preferred embodiment, the labeled targets are purified using methods known in the art, e.g., ethanol purification or column purification.

In a preferred embodiment, the probes will include one or more control molecules which hybridize to control sequences on the microarray to normalize signals generated from the microarray. Labeled normalization targets are polynucleotide sequences that are perfectly complementary to control oligonucleotides that are spotted onto the microarray. The signals obtained from the normalization controls after hybridization provide a control for variations in hybridization conditions, label intensity, "reading" efficiency and other factors that may cause the signal of a perfect hybridization to vary between arrays. In a preferred embodiment, signals (e.g., fluorescence intensity) read from all other probes in the array are divided by the signal (e.g., fluorescence intensity) from the control probes thereby normalizing the measurements.

Preferred normalization probes are selected to reflect the average length of the other probes present in the sample, however, they are selected to cover a range of lengths. The normalization control(s) can also be selected to reflect the (average) base composition of the other probes in the array, however in a preferred embodiment, only one or a few normalization probes are used and they are selected such that they hybridize well (i.e. no secondary structure) and do not match any other probe molecules.

#### *Hybridization to polynucleotide arrays*

To determine the differential expression of a nucleic acid sequence in an animal subjected to pain, labeled probe nucleic acids are hybridized to a polynucleotide array comprising polynucleotides of known sequence or identity. Polynucleotide hybridization

involves providing a denatured probe and target polynucleotide under conditions where the probe nucleic acid member and its complementary target can form stable hybrid duplexes through complementary base pairing. The polynucleotides that do not form hybrid duplexes are then washed away leaving the hybridized polynucleotides to be detected, typically through detection of an attached detectable label. It is generally recognized that polynucleotides are denatured by increasing the temperature or decreasing the salt concentration of the buffer containing the polynucleotides. Under low stringency conditions (e.g., low temperature and/or high salt) hybrid duplexes (e.g., DNA:DNA, RNA:RNA, or RNA:DNA) will form even where the annealed sequences are not perfectly complementary. Thus specificity of hybridization is reduced at lower stringency. Conversely, at higher stringency (e.g., higher temperature or lower salt) successful hybridization requires fewer mismatches.

The invention provides for hybridization conditions comprising the Dig (digoxigenin) hybridization mix (Boehringer); or formamide-based hybridization solutions, for example as described in Ausubel et al., *supra* and Sambrook et al. *supra*.

Alternatively, as described above, a preferred embodiment of the present invention comprises hybridizing probe nucleic acid molecules to an Affymetrix Gene Chip®. In this embodiment, hybridization of the probe nucleic acid molecules to the polynucleotide array is carried out according to the manufacturers instructions.

Methods of optimizing hybridization conditions are well known to those of skill in the art (see, e.g., *Laboratory Techniques in Biochemistry and Molecular Biology*, Vol. 24: *Hybridization With Polynucleotide Probes*, P. Tijssen, ed. Elsevier, N.Y., (1993)).

Following hybridization, non-hybridized labeled or unlabeled polynucleotide is removed from the support surface, conveniently by washing, thereby generating a pattern of hybridized probe polynucleotide on the substrate surface. A variety of wash solutions are known to those of skill in the art and may be used. The resultant hybridization patterns of labeled, hybridized oligonucleotides and/or polynucleotides may be visualized or detected in a variety of ways, with the particular manner of detection being chosen based on the particular label of the test polynucleotide, where representative detection means include scintillation counting, autoradiography, fluorescence measurement, calorimetric measurement, light emission measurement and the like. In the preferred embodiment, in

which the probe nucleic acid is hybridized to an Affymetrix Gene Chip®, the hybridization pattern of the probe nucleic acid molecules is detected and measured according to the Affymetrix protocol, and using Affymetrix instrumentation.

Following hybridization and any washing step(s) and/or subsequent treatments, as described above, the resultant hybridization pattern is detected. In detecting or visualizing the hybridization pattern, the intensity or signal value of the label will be not only be detected but quantified, by which is meant that the signal from each spot of the hybridization will be measured and compared to a unit value corresponding to the signal emitted by a known number of end labeled target polynucleotides to obtain a count or absolute value of the copy number of each end-labeled target that is hybridized to a particular spot on the array in the hybridization pattern.

### *Expression analysis*

Methods for analyzing the data collected from hybridization to arrays are well known in the art. For example, where detection of hybridization involves a fluorescent label, data analysis can include the steps of determining fluorescent intensity as a function of substrate position from the data collected, removing outliers, i.e., data deviating from a predetermined statistical distribution, and calculating the relative binding affinity of the test polynucleotides from the remaining data. The resulting data is displayed as an image with the intensity in each region varying according to the binding affinity between associated oligonucleotides and/or polynucleotides and the test polynucleotides.

According to the present invention, there are three sets of measurements which may be used to determine differential expression of a polynucleotide obtained from an animal subjected to pain relative to an animal not subjected to pain. In one embodiment, differential expression may be determined by measuring the intensity ratio, as defined above, wherein a  $\pm 1.4$  fold change or greater in the intensity ratio is indicative of differential expression. In a preferred embodiment, differential expression may be determined by measuring the Affymetrix ratio using the software suite and manufacturers protocols, available from Affymetrix (Santa Clara, CA), wherein a change in expression of  $\pm 1.4$  fold or greater is indicative of differential expression.

In another preferred embodiment, differential expression of sequences can be established if they are differentially expressed by at least 1.2 fold, with a p-value of less than

0.05, in a statistical analysis of triplicate array data points using an appropriate statistical analysis, such as the student's t-test.

For example, Table 2 represents a composite of all those genes which were originally identified as differentially regulated by at least 1.4 fold in either SNI or axotomy pain models. Differential expression was subsequently evaluated in at least three replicate arrays using at least three replicate nucleic acid samples obtained from the animal nerve injury and inflammation pain models. From the replicate screening method, polynucleotide sequences can be identified as differentially expressed which have a lower fold change (i.e., lower than 1.4 fold) in expression in an animal subjected to pain, provided that a statistical analysis of the replicate data yields a p-value of less than 0.05. Tables 6 and 7 below show an example of an experimental replicate scheme which may be used to obtain the data shown in Table 2. The animal pain model is indicated in the column labeled "animal model", and the elapsed time following the generation of the pain model (i.e., time post surgery) is indicated. Experiments can be performed on samples obtained from both dorsal horn (Table 6) and DRG (Table 7) tissues.

Table 6. Affimetrix microarray experiments						
Animal Model	Time Points				# hybridizations on exp	Total # hybr.
CCI DH	3d	7d	21d	40d	4x3	12
Chung DH	3d	7d	21d	40d	4x3	12
SNI DH	3d	7d	21d	40d	4x3	12
Sham CCI-SNI DH	3d	7d	21d	none	3x3	9
Sham Chung DH	3d	7d	21d	none	3x3	9
Naïve DH					1x3	3
						Total
						57
CFA injec. DH	12h	24h	5d		3x3	9
						Total
						67

DH = dorsal horn of the spinal cord

CCI = chronic constriction of the sciatic nerve

Chung = ligation of the spinal nerves L5 and L6 (lumbar region) distal to the corresponding dorsal root ganglia



SNI = spare nerve injury model (ligation and axotomy of the tibial and peroneal nerves)

CFA = injection in the paw of complete Freund's adjuvant (inflammatory pain model)

Table 7. Affimetrix microarray experiments					
Animal Model	Time Points				# hybridization exp
CCI DRG L4	3d	7d	21d	40d	4x3
Chung DRG L4	3d	7d	21d	40d	4x3
SNI DRG L4	3d	7d	21d	40d	4x3
CCI DRG L5	3d	7d	21d	40d	4x3
Chung DRG L5	3d	7d	21d	40d	4x3
SNI DRG L5	3d	7d	21d	40d	4x3
Sham CCI=SNI L4+L5	3d	7d	21d	none	3x3
Sham Chung L4+L5	3d	7d	21d	none	3x3
Naïve L4					1x3
Naïve L5					1x3
CFA injec. DRG (L4+L5 pool)	12h	24h	5d		3x3

Total 105

DRG = dorsal root ganglion

CCI = chronic constriction of the sciatic nerve

Chung = ligation of the spinal nerves L5 and L6 (lumbar region) distal to the correspondent dorsal root ganglions

SNI = spare nerve injury model (ligation and axotomy of the tibial and peroneal nerves)

CFA = injection in the paw of complete Freund's adjuvant (inflammatory pain model)

The nerve injury pain models represented are the Spinal segmental nerve injury (Chung), Chronic Constriction Injury (CCI) and Spared Nerve Injury (SNI) models at time points 3, 7, 21 and 40 days. The inflammatory model represented is intraplantar Complete Freund's Adjuvant (CFA) injection into the hind paw at 0.5, 1 and 5 days post injection. The tissue are lumbar DRGs and dorsal horn (i.e two tissues four models, 4 time points (3 for CFA) = 30 different pain comparisons each in triplicate each compared against the appropriate control.

The following is an example of a detection protocol that may be used for the simultaneous analysis of two nucleic acid samples to be compared, wherein one sample is

obtained from primary sensory neurons of an animal pair model and the other is obtained from primary sensory neurons of a naïve animal, and wherein each sample is labeled with a different fluorescent dye, such as Cy3 and Cy5. This type of protocol would produce an intensity ratio.

Each element of the microarray is scanned for the first fluorescent color. The intensity of the fluorescence at each array element is proportional to the expression level of that nucleic acid sequence in the sample.

The scanning operation is repeated for the second fluorescent label. The ratio of the two fluorescent intensities provides a highly accurate and quantitative measurement of the relative gene expression level in the two primary sensory neuron samples.

In a preferred embodiment, fluorescence intensities of the immobilized target nucleic acid sequences can be determined from images taken with a custom confocal microscope equipped with laser excitation sources and interference filters appropriate for the Cy3 and Cy5 fluorophores. Separate scans were taken for each fluorophore at a resolution of  $225\text{ }\mu\text{m}^2$  per pixel and 65,536 gray levels. Image segmentation to identify areas of hybridization, normalization of the intensities between the two fluorophore images, and calculation of the normalized mean fluorescent values at each target are as described (Khan, J., Simon, R., Bittner, M., Chen, Y., Leighton, S. B., Pohida, T., Smith, P. D., Jiang, Y., Gooden, G. C., Trent, J. M. & Meltzer, P. S. (1998) *Cancer Res.* 58, 50095013. Chen, Y., Dougherty, E. R. & Bittner, M. L. (1997) *Biomed. Optics* 2, 364374). Normalization between the images is used to adjust for the different efficiencies in labeling and detection with the two different fluorophores. This is achieved by equilibrating to a value of (1) the signal intensity ratio of a set of internal control genes spotted on the array.

Following detection or visualization, the hybridization pattern is used to determine quantitative information about the genetic profile of the labeled probe polynucleotide sample that was contacted with the array to generate the hybridization pattern, as well as the physiological source from which the labeled probe polynucleotide sample was derived. By genetic profile is meant information regarding the types of polynucleotides present in the sample, e.g. in terms of the types of genes to which they are complementary, as well as the copy number of each particular polynucleotide in the sample. From this data, one can also derive information about the physiological source from which the target polynucleotide

sample was derived, such as the types of genes expressed in the tissue of cell which is the physiological source, as well as the levels of expression of each gene, particularly in quantitative terms.

In a particularly preferred embodiment, where it is desired to quantify the transcription level (and thereby expression) of one or more polynucleotide sequences in a sample, the probe nucleic acid sample is one in which the concentration of the mRNA transcript(s) of the gene or genes, or the concentration of the polynucleotides derived from the mRNA transcript(s), is proportional to the transcription level (and therefore expression level) of that gene. Similarly, it is preferred that the hybridization signal intensity be proportional to the amount of hybridized polynucleotide. While it is preferred that the proportionality be relatively strict (e.g., a doubling in transcription rate results in a doubling in mRNA transcript in the sample polynucleotide pool and a doubling in hybridization signal), one of skill will appreciate that the proportionality is more relaxed and even non-linear. Thus, for example, an assay where a 5 fold difference in concentration of the probe mRNA results in a 3 to 6 fold difference in hybridization intensity is sufficient for most purposes. Where more precise quantification is required appropriate controls are run to correct for variations introduced in sample preparation and hybridization as described herein. In addition, serial dilutions of "standard" probe mRNAs are used to prepare calibration curves according to methods well known to those of skill in the art. Of course, where simple detection of the presence or absence of a transcript is desired, no elaborate control or calibration is required.

For example, if a microarray nucleic acid member is not labeled after hybridization, this indicates that the gene comprising that nucleic acid member is not expressed in either sample. If a nucleic acid member is labeled with a single color, it indicates that a labeled gene was expressed only in one sample. The labeling of a nucleic acid member comprising an array with both colors indicates that the gene was expressed in both samples. Even genes expressed once per cell are detected (1 part in 100,000 sensitivity). A 1.4-fold or greater difference in expression intensity in the two samples being compared is indicative of differential expression.

#### *Verification of differential expression*

The above methods result in the identification, using polynucleotide arrays comprising polynucleotides of known sequences, of nucleic acid molecules that are differentially expressed in an animal subjected to pain. Following the initial identification of such sequences using the microarrays, however, the differential expression is validated using techniques that are well known in the art.

In one embodiment, following identification of a 1.4 fold or greater difference in hybridization intensity in the sample obtained from an animal subjected to pain relative to a naïve animal, reverse transcription PCR (RT-PCR) is performed using primers specific for the hybridizing sequence. For example, given that the identity and sequence of each nucleic acid comprising the polynucleotide array is known, if probe nucleic acid hybridizes at a given position on the array, one of skill in the art can design primers based on the sequence of the nucleic acid known to be at that position, which can then be used to amplify the known sequence from the original nucleic acid sample obtained from the animal. The technique of designing primers for PCR amplification is well known in the art. Oligonucleotide primers and probes are 5 to 100 nucleotides in length, ideally from 17 to 40 nucleotides, although primers and probes of different length are of use. Primers for amplification are preferably about 17-25 nucleotides. Primers useful according to the invention are also designed to have a particular melting temperature ( $T_m$ ) by the method of melting temperature estimation. Commercial programs, including Oligo™ (MBI, Cascade, CO), Primer Design and programs available on the internet, including Primer3 and Oligo Calculator can be used to calculate a  $T_m$  of a nucleic acid sequence useful according to the invention. Preferably, the  $T_m$  of an amplification primer useful according to the invention, as calculated for example by Oligo Calculator, is preferably between about 45 and 65° C and more preferably between about 50 and 60° C. Preferably, the  $T_m$  of a probe useful according to the invention is 7° C higher than the  $T_m$  of the corresponding amplification primers. It is preferred that, following generation of cDNA by RT-PCR, the cDNA fragment is cloned into an appropriate sequencing vector, such as a PCRII vector (TA cloning kit; Invitrogen). The identity of each cloned fragment is then confirmed by sequencing in both directions. It is expected that the sequence obtained from sequencing would be the same as the known sequence originally spotted on the polynucleotide array.

In one embodiment, following sequence confirmation of the identity of the differentially expressed polynucleotide, the differential expression of the polynucleotide in

sensory neurons of an animal subjected to pain relative to a naïve animal is confirmed by Northern analysis. Sequence confirmed cDNAs are used to produce  $^{32}\text{P}$ -labeled cDNA probes using techniques well known in the art (see, for example, Ausubel, *supra*), or commercially available kits (Prime-It Kit, Stratagene, La Jolla, CA). Northern analysis of total RNA obtained from naïve animals and animals subjected to pain is then performed using classically described techniques. For example, total RNA samples are denatured with formaldehyde / formamide and run for two hours in a 1% agarose, MOPS-acetate-EDTA gel. RNA is then transferred to nitrocellulose membrane by upward capillary action and fixed by UV cross-linkage. Membranes are pre-hybridized for at least 90 minutes and hybridized overnight at 42° C. Post hybridization washes are performed as known in the art (Ausubel, *supra*). The membrane is then exposed to x-ray film overnight with an intensifying screen at -80° C. Labeled membranes are then visualized after exposure to film. The signal produced on the x-ray film by the radiolabeled cDNA probes can then be quantified using any technique known in the art, such as scanning the film and quantifying the relative pixel intensity using a computer program such as NIH Image (National Institutes of Health, Bethesda, MD), wherein at least a 2 fold, preferably a 1.4 fold increase or decrease in the hybridization intensity of the radiolabeled probe obtained from the animal subjected to pain relative to the naïve animal validates the differential expression observed using the polynucleotide microarray.

In an alternate embodiment, the differential expression of polynucleotide sequences, first identified using the polynucleotide microarrays is verified using the Taqman™ (Perkin-Elmer, Foster City, CA) techniques, which is performed with a transcript-specific antisense probe. This probe is specific for the PCR product (e.g. a nucleic acid sequence identified using the microarray as being differentially regulated) and is prepared with a quencher and fluorescent reporter probe complexed to the 5' end of the oligonucleotide. Different fluorescent markers can be attached to different reporters, allowing for measurement of two products in one reaction. When Taq DNA polymerase is activated, it cleaves off the fluorescent reporters by its 5'-to-3' nucleolytic activity. The reporters, now free of the quenchers, fluoresce. The color change is proportional to the amount of each specific product and is measured by fluorometer; therefore, the amount of each color can be measured and the RT-PCR product can be quantified. The PCR reactions can be performed in 96 well plates so that samples derived from many individuals can be processed and measured simultaneously. The Taqman™ system has the additional advantage of not requiring gel electrophoresis and

allows for quantification when used with a standard curve. Quantitative analysis of the mRNA levels for a given gene present in the originally obtained sample from an animal subjected to pain permits a determination of the differential expression of the particular mRNA relative to that obtained from a naïve animal. A fold increase or decrease in expression of a nucleic acid sequence from an animal subjected to pain of at least 2 relative to a naïve animal is indicative of differential expression, and is sufficient to validate the differential expression first identified using the polynucleotide microarray.

In a still further embodiment, the differential expression of a polynucleotide identified using microarray analysis is verified by *in situ* hybridization. Given that the sequence of each of the nucleic acid molecules on the microarray used to identify differential expression is known, labeled cDNA or antisense RNA probes can be generated using techniques which are known in the art (Ausubel et al., *supra*). The probes are then hybridized to fixed (e.g., fixed in 4% paraformaldehyde) thin (5-50  $\mu$ m) tissue sections of, for example, the dorsal root ganglion. Briefly, prior to hybridization, the tissue sections are incubated in acetic anhydride, dehydrated in graded ethanols, and de-lipidated in chloroform. Tissue sections are then hybridized with one or more labeled probes for 24 hours at 45° C. Hybridized probe may be subsequently detected using techniques which are compatible with the label incorporated in the probe. The level of hybridization may be quantitated using any technique known to those of skill in the art. For example, the hybridization signal may be photographed, and the photograph scanned into a computer and the hybridization signal quantitated using software such as NIH Image (NIH, Bethesda, MD). The measured level of hybridization may then be correlated with the differential expression level measured using the microarray analysis.

In a further embodiment, differential expression of sequences, identified based on the 1.4 fold threshold criteria, described above, can be verified as being differentially expressed if they are differentially expressed by at least 1.2 fold, with a p-value of less than 0.05, in a statistical analysis of triplicate array data points using an appropriate statistical analysis, such as a student's t-test.

#### Differentially Expressed Polynucleotides

The present invention provides polynucleotides and genes which are differentially expressed in an animal which has been subjected to pain relative to an animal not subjected to pain, wherein the differential expression is determined using the methods described above.

Using the above methods a number of polynucleotides have been identified which are differentially expressed in an animal subjected to pain. These polynucleotides and their respective human homologs, as well as the polypeptide molecules encoded thereby are shown in Tables 1, 2, 3, 4, or 5.

Table 1 shows a group of differentially expressed polynucleotides and genes, several of which demonstrate an at least 1.4 fold change in expression in an animal subjected to pain in both axotomy and SNI pain models relative to naïve animals; indicated by the Fold Change of Axotomy/Naïve or SNI/Naive. Those polynucleotides that are not differentially expressed by at least +/- 1.4 fold are not considered to be differentially expressed according to the invention. The polynucleotides of Table 1 have been previously suggested to be involved in the mechanisms of pain and neuronal injury. The present invention, however, distinguishes these polynucleotides by providing a threshold of differential expression which is less than that previously accepted for such analysis.

Table 2 shows polynucleotides of the present invention which have been established as being differentially expressed by at least 1.4 fold in an axotomy, SNI, or inflammation animal pain model, and which have been further analyzed by triplicate analysis as shown in Tables 6 and 7. The polynucleotide sequences shown in Table 2 have been established herein as being differentially expressed by at least 1.2 fold, with a level of statistical significance of  $p < 0.05$  as determined by a student's t-test over at least three replicate assays (the replicate assay schemes are shown in Tables 6 and 7), in several animal pain models measured at several post operative time points. The nerve injury pain models represented are the Spinal segmental nerve injury (Chung), Chronic Constriction Injury (CCI) and Spared Nerve Injury (SNI) models at time points 3, 7, 21 and 40 days. The inflammatory model represented is intraplantar Complete Freund's Adjuvant (CFA) injection in to the hind paw at 0.5, 1, and 5 days post injection. The tissue are lumbar DRGs and dorsal horn (i.e two tissues four models, 4 time points (3 for CFA) = 30 different pain comparisons each in triplicate each compared against the appropriate control.

Table 3 shows polynucleotide sequences of the present invention which have been established as being differentially expressed by at least 1.4 fold, but which have not attained a statistical significance of  $p < 0.05$  according to the triplicate analysis scheme shown in Tables 6 and 7. The polynucleotide sequence shown in Table 3, however, are considered to be

“differentially expressed” according to the present invention, despite the fact that the triplicate analysis has not established a significance of  $p < 0.05$ .

Table 4 shows polynucleotides of the present invention which are upregulated by at least 1.4 fold in a rat inflammation pain model as indicated by either or both of the Intensity Ratio Naïve/SNI or Affymetrix Ratio data column, and which have not been previously suggested to be involved in the cellular response to pain.

Table 5 shows polynucleotides of the present invention which are downregulated by at least 1.4 fold in a rat inflammation pain model as indicated by either or both of the Intensity Ratio Naïve/SNI or Affymetrix Ratio data column, and which have not been previously suggested to be involved in the cellular response to pain. The data in tables 4 and 5 represents an average of the Intensity Ratios and Affymetrix Ratios obtained from inflammation pain models at 3 hours, 6 hours, 12 hours, 24 hours, 48 hours and 5 days following induction of inflammation.

As indicated in the tables, the column labeled “% homology” indicates the percent identity between the human and rat (or mouse if the rat sequence is not available) sequences. In some cases, the polynucleotide sequence indicated in Table 2, 3, 4, or 5 is an EST sequence. Accordingly, the column labeled “former identifier” indicates the accession number of the gene sequence having the closest homology, as determined by a BLAST search, to the EST sequence. The column labeled “identifier” in conjunction with the columns labeled “description” and “protein type” indicate the function of the proteins encoded by the polynucleotides of Tables 1, 2, 3, 4, or 5 and specifically indicated in Tables 2, 3, 4, or 5. The column labeled “subcellular localization” indicates the known location of the protein encoded by the polynucleotide sequences noted in the Table in specific compartments in the cell. Accordingly, those proteins which are indicated in the Table as being secreted may be useful, as described below, as protein drugs for modulating the activity of one or more proteins indicated in the table, or for treating pain as described herein. Similarly, proteins which are indicated as being integral membrane proteins may be cell surface receptors, and may be screened against candidate compounds to identify compounds which regulate their activity as described below. The columns labeled “rat gene SEQ ID No.”, “rat protein SEQ ID No.”, “human gene SEQ ID No.”, and “human protein SEQ ID No.” in Tables 2-3 indicates the SEQ ID No. corresponding to the sequence identified by the corresponding accession number.



In addition to the polynucleotides indicated in Tables 1, 2, 3, 4, or 5, the scope of the invention further includes variations, and/or mutations in the polynucleotide sequences, including SNPs and other conservative variants that do not alter the functionality of the encoded polypeptide, including sequences having at least 30% homology with the polynucleotide sequences shown in Tables 1, 2, 3, 4, or 5, but encoding a protein having the equivalent function to the protein encoded by the polynucleotide sequences shown in Tables 1, 2, 3, 4, or 5. The present invention further encompasses the human homologs to the polynucleotide sequences indicated in Tables 1, 2, 3, 4, or 5, and the polypeptide sequences encoded thereby. The invention still further encompasses the polypeptide sequences encoded by the polynucleotide sequences shown in Tables 1, 2, 3, 4, or 5. The Accession no. for the polypeptide sequence is shown in Tables 2, 3, 4, or 5 (the protein accession number is not indicated for Table 1, as all of these genes are known in the art). The present invention also encompasses a variant, domain, epitope, or fragment of the polypeptide molecules indicated in Tables 1, 2, 3, 4, or 5, provided that the variant, domain, epitope, or fragment has an equivalent function to that of the polypeptide indicated in Tables 1, 2, 3, 4, or 5 (i.e., the function for the proteins indicated in Tables)

Category	Table 1. Descriptions	Rat Gene	Axotomy		Known		Spared Nerve Injury		
			Naive Intensity	Axotomy Intensity	Fold change	Regulation	NI Intensity	SNI Intensity	Fold change
GPCR Receptors	$\alpha$ 2-adrenergic receptor	M62372	#	#		$\uparrow(32,7)$	#	#	
	$\alpha$ 2-C4 adrenergic receptor	X57659	#	#		$\downarrow(32)$	#	(+)	$\Downarrow$
	Angiotensin II receptor type 1 (AT1)	M74054	#	#		$\uparrow(22)$	#	#	
	Angiotensin II receptor type 2 (AT2)	D16840	#	#		$\uparrow(22)$	#	#	
	Bradykinin B1 receptor	AJ132230	++	(++)	-	$\uparrow(38)$	+	(+)	$\Downarrow$
	Bradykinin B2 receptor	X80187	#	#		$\uparrow(38)$	#	#	
	Cholecystokinin-B receptor	M89418	#	(+)	$\Uparrow$	$\uparrow(33,3)$	#	(+)	$\Uparrow$
	Galanin receptor type 1	U30280	#	#		$\uparrow(61,67)$	#	#	
	Galanin receptor type 2	U94322	#	#		$\downarrow(54,67)$	#	#	
	NPY receptor type 1 (NPY-Y1)	Z11504	+	(+)	$\uparrow$	$\downarrow(64,37)$	+	+	-
	$\mu$ opioid receptor (MOR)	S77863	#	#		$\downarrow(65)$	#	#	
	$\delta$ opioid receptor (DOR)	U00475	#	#		$\downarrow(66)$	#	#	
	GABA-A receptor $\alpha$ 2 subunit	L08491	++	++	-	NC (20)	++	++	-
	GABA-A receptor $\gamma$ 2 subunit	L08497	(+)	#	$\Downarrow$	$\downarrow(20)$	+	+	-
	P2X3 receptor	X90651	++	+++	-	$\downarrow(62)$	+++	++	$\Downarrow$
	Vanilloid receptor 1	AF029310	++	(++)	-	$\downarrow(62)$	++	+	$\Downarrow$
Tyrosine Kinase Receptors	p75 (low affinity nerve growth factor receptor)	U25650	#	#	$\Uparrow$	$\downarrow(63)$	#	++	-
	GFR $\alpha$ 1 (RET ligand 1)	U97142	++	++	$\Uparrow$	$\downarrow(63)$	+	++	$\Downarrow$
Cytokines/Growth Factors/Neuropeptides	GFR $\alpha$ 2 (RET ligand 2)	U97143	++	++	$\Uparrow$	$\downarrow(63)$	++	++	$\Downarrow$
	TrkA (trk precursor)	M85214	+++	+++	-	$\downarrow(64,6)$	+++	++	$\Downarrow$
	Brain-derived neurotrophic factor	D10838	+	(+)	-	$\uparrow(19,33,10)$	+	+	$\Downarrow$
	$\beta$ -type calcitonin gene-related peptide	M11598	++	(+)	$\Downarrow$	$\downarrow(19,47)$	++	++	$\Downarrow$
	$\alpha$ -type calcitonin gene-related peptide	M11597	+++	+++	$\Downarrow$	$\downarrow(47)$	+++	++	$\Downarrow$
	Cholecystokinin precursor	X01032	#	#		$\uparrow(56)$	#	#	
	Basic fibroblast growth factor	M22427	#	#	$\Uparrow$	$\uparrow(19,30)$	#	#	$\Uparrow$
	Galanin	J03624	#	+++	$\Uparrow$	$\uparrow(19,28)$	#	+++	$\Uparrow$
	Interleukin 1 $\beta$	M98820	#	#	$\Uparrow$	$\uparrow(45)$	(+)	#	$\Uparrow$
	Interleukin 6	M28745	#	#	$\Uparrow$	$\uparrow(45)$	#	#	$\Uparrow$
	Nerve growth factor	E03082	(+)	#	$\Downarrow$	$\uparrow(19)$	#	#	$\Downarrow$
	Neuropeptide Y	M15980	+	+++	$\Downarrow$	$\uparrow(19,28)$	#	+++	$\Downarrow$
	Pituitary adenylate cyclase activating peptide(PACAP)	X80280	++	++	$\Uparrow$	$\uparrow(19,32)$	++	++	$\Uparrow$
	Somatostatin	M25890	++	++	$\Downarrow$	$\downarrow(2)$	++	++	$\Downarrow$
	Substance P ( $\delta$ -preprotachykinin)	X56306	++	++	$\Downarrow$	$\uparrow(28,47)$	++	++	$\Downarrow$
	Tumor necrosis factor	E02468	+	+	$\Downarrow$	$\downarrow(45)$	+	+	$\Downarrow$
	Ile1et Amyloid Polypeptide(IAPP)	X52820	(+)	#	-	$\downarrow(44)$	#	(+)	$\Uparrow$

Category	Table 1. Descriptions	Ref Gene	Axotomy			Known			Spared Nerve Injury		
			Native Intensity	Axotomy Intensity	Fold change	Regulation	NI Intensity	SNI Intensity	NI Intensity	SNI Intensity	Fold change
Ion channels	Pancreatitis-associated protein (Reg-2)	M98049	#	(++)	AAA	↑(39)	#	++	++	++	AAA
	Brain sodium channel III	Y00766	++	++	AA	↑(19,31,7)	(++)	+	+	+	AA
	Voltage-dependent potassium channel protein	X12589	+++	+++	-	↓(29)	++	+++	++	+++	AA
	Voltage-gated sodium channel (SNS)	X92184	++	++	AA	↓(17,49,53)	++	++	++	++	AA
	Calcium channel α-2 subunit (CCHL2A)	M86621	++	+++	AAA	↑(41)	++	+++	++	+++	AAA
Cell cytoskeleton	Voltage-gated Na channel α subunit (NaN)	AF059030	+++	++	AA	↓(10,53)	+++	++	+++	++	AA
	Cytoplasmic β-actin	V01217	+++	+++	-	↑(19,20)	+++	+++	+++	+++	-
	GAP-43	L21192	+++	+++	AA	↑(19,11)	+++	+++	+++	+++	AA
	Glial fibrillary acidic protein	AF028784	(+)	++	AAA	↑(60)	#	++	++	++	AAA
	Heavy neurofilament polypeptide (NF-H)	X13804	+++	+++	AA	↓(19,59,48)	+++	+++	+++	+++	AA
Transcription factors	Neurofilament protein middle (NF-M)	Z12152	+++	+++	-	↓(19,59,48)	+++	+++	+++	+++	-
	Light molecular-weight neurofilament (NF-L)	AF031880	+++	+++	-	↓(19,59,48)	+++	+++	+++	+++	-
	Peripherin	AF031878	+++	+++	-	↑(19,59,9)	+++	+++	+++	+++	-
	α-tubulin	V01227	+++	+++	-	↑(19)	+++	+++	+++	+++	-
	Tubulin	AB015946	++	++	-	↑(19,31,43)	++	+	+	+	-
Cell surface/ Extracellular matrix	Muscle LIM protein	X81193	#	(+)	AAA	↑(46)	#	+	+	+	AAA
	Leucine zipper protein (ATF3)	M63282	++	+++	AAA	↑(53)	+	++	++	++	AAA
	c-Jun	X17163	#	#	AA	↑(27,14,33)	#	++	++	++	AA
	Jun-D	D28307	#	#	AA	↑(27,14,33)	+	+	+	+	AA
	Epididymal glycoprotein (AEG)	M31173	#	(+)	AA	↑(46)	#	#	#	#	AA
Enzymes	H36-α-7 Integrin α-chain	X65036	+++	+++	AA	↑(59)	++	+++	++	+++	AA
	140-kD NCAM	X08564	(+)	(+)	-	↑(13)	#	++	++	++	-
	Neural cell adhesion molecule L1	X59149	+++	+++	-	NC (60)	++	++	++	++	-
	Neuropilin	AF016298	(++)	++	-	↑(23)	++	+	++	+	-
	Ninjurin1	U72660	#	++	-	↑(4)	++	+	++	+	-
Cell death / Survival	Neuronal nitric oxide synthase	U87309	#	#	-	↑(12,4)	#	#	#	#	-
	Bax-α	U59184	+++	+++	-	NC (19,25,26)	++	++	++	++	-
	Bcl-2	L14880	(+)	++	-	↓(25,1)	+	+	+	+	-
	Bcl-xlong	U34963	+	++	-	↓(26)	(++)	+	+	+	-
	Manganese-containing superoxide dismutase(MnSOD)	Y00497	++	++	-	↑(19,50)	+	++	++	++	-
Metabolism	Heat shock protein 27	M86389	+++	+++	AA	↑(12)	+++	+++	+++	+++	AA
	Copper-zinc containing superoxide dismutase	M21060	+++	+++	-	NC (14,49)	+++	+++	+++	+++	-
	Cutaneous fatty acid-binding protein	S69874	+++	+++	AA	↑(13)	+++	+++	+++	+++	-

KEY  
 NC = no change  
 ( ) = present only on 1 chip  
 # = below detection  
 + = 1.4 fold  
 ++ = 1.6 fold  
 +++ = 1.8 fold

Category	Table 1. Descriptions	Rat Gene	Axotomy		Known		Spared Nerve Injury		
			Naive Intensity	Axotomy Intensity	Fold change	Regulation	NI Intensity	SNI Intensity	Fold change
	- = < 1.4 fold ▲ = 1.4 < < 2 fold ▲▲ = 2 < < 5 fold ▲▲▲ = > 5 fold	+ = 100 - 1000 ++ = 1000 - 5000 +++ = 5000 - 10.000 ++++ = >10.000							

Table 2.

Rat gene ID	Rat gene SEQ NO:	Rat Protein	Rat protein SEQ NO:	Human Genes	Human gene SEQ ID NO:	Human Protein	Human protein SEQ ID NO:	% homology	Identifier	Former Identifier	Descriptions	Subcellular Localization	Protein Type
A09811	1	CAA00863	2	XM_002636	3	XP_002636	4	80	BRL-3A binding protein		A09811cds R.norvegicus mRNA for BRL-3A binding protein		
AA108277	5	NP_038587	6	AB003334	7	Q82598	8	89	Mus musculus heat shock protein, 105 kDa (Hsp105)	NM_013559	AA108277 EST0020 rat lambda ZAPII library (C.P.Hamel) Rattus norvegicus cDNA clone pCO100 5 similar to Heat shock protein (hsp-E71), mRNA sequence [Rattus norvegicus]		
AA108277	9	NP_038587	10	AB003334	11	Q82598	12	89	Mus musculus heat shock protein, 105 kDa (Hsp105)	NM_013559	AA108277 EST0020 rat lambda ZAPII library (C.P.Hamel) Rattus norvegicus cDNA clone pCO100 5 similar to Heat shock protein (hsp-E71), mRNA sequence [Rattus norvegicus]		
AA684537	13	NP_079592	14	AF047181	15	O43674	16	88.41	Mus musculus NADH dehydrogenase (ubiquinone) 1 beta subcomplex 5 (Ndufb5), mRNA	NM_025316	AA684537 EST104885 Rat PC-12 cells, untreated Rattus sp. cDNA clone RPCAA05 5 end similar to NADH-ubiquinone oxidoreductase SGD subunit, mRNA sequence [Rattus sp.]		

Table 2.

AA866031	17	AAH06680	18	NM_005006	19	P28331	20	NADH dehydrogenase (ubiquinone) Fe-S protein 1 (75kD) (Listed as rat EST and mouse hypothetical protein)	AA866031 EST109008 Rat PC-12 cells, NGF treated (9 days) Rattus sp. cDNA clone RPNAL84 5' end similar to NADH-ubiquinone oxidoreductase 75 kDa subunit, mRNA sequence [Rattus sp.]
AA866579	21	AAC39959	22	XM_028030		XP_028030		Mus musculus ubiquitin-homology domain protein (Ubi1)	AA866579 EST110738 Rat PC-12 cells, NGF treated (9 days) Rattus sp. cDNA clone RPNBL48 5' end similar to Ubiquitin-like protein NEDD-8, mRNA sequence [Rattus sp.]
AA866579	23	AAC39959	24	XM_028030		XP_028030		Mus musculus ubiquitin-homology domain protein (Ubi1)	AA866579 EST110738 Rat PC-12 cells, NGF treated (9 days) Rattus sp. cDNA clone RPNBL48 5' end similar to Ubiquitin-like protein NEDD-8, mRNA sequence [Rattus sp.]

Table 2.

AA7892 76	25	P11507	26	M23114	27	P16615	28	91.03	Ca <sup>2+</sup> -ATPase	J04023	AA789276 EST188773 Rattus norvegicus cDNA, 5' end /clone=RHEAA03 /clone_end=5 /gb=AA789276 /gl=2862231 /ug=Rn.2305 /len=608	INTEGRAL MEMBRANE PROTEIN. SARCOPLA SMIC AND ENDOPLAS MIC RETICULUM	"Sarcoplasmic/e ndoplasmic reticulum calcium ATPase 2 (EC 3.6.3.8)(Calcium pump 2) (SERCA2) (SR Ca <sup>2+</sup> )-ATPase 2) (Calcium- transportingATP ase sarcoplasmic reticulum type, slow twitch skeletal muscleisofo"
AA7893 36	29	BAB268 40	30	NM_0050 03	31	O14561	32	95.09	Homo sapiens NADH dehydrogenas e (ubiquinone) 1, alpha/beta subcomplex 1 (Listed is rat EST and mouse putative protein)	AA789336 AA789336	AA789336 EST188833 Rattus norvegicus cDNA, 5' end /clone=RHEAA38 /clone_end=5 /gb=AA789336 /gl=2862291 /ug=Rn.1318 /len=599		
AA7893 89	33	Q63941	34	XM_00150 1		XP_001 501		95	Rab3B protein	NM_03109 1	AA789389 EST188886 Rattus norvegicus cDNA, 5' end /clone=RHEAA70 /clone_end=5 /gb=AA789389 /gl=2862344 /ug=Rn.3788 /len=588		Ras-related protein Rab-3B.

Table 2.

AA80141 41	35	P43035	36	L13385	37	P43034	38	95.62	platelet- activating factor acetylhydrolase beta subunit	AF016049	AA801441 EST190938 Rattus norvegicus cDNA, 5' end /clone=RSPAA71 /clone_end=5 /gb=AA801441 /gi=2864386 /ug=Rn.5827 /len=520	Cytoplasmic	Platelet- activating factor acetylhydrolase beta subunit 3.1.1.47 (PAF- AH alpha 45 kDa subunit) (PAF-AH 45 kDa subunit) (PAF-AH alpha) (Lisencephaly-1 protein) (LIS-1).
AA8331 81	39	BAB806 86		NM_0143 33	40	NP_055 148	41		Mus musculus spermatogenic immunoglobulin superfamily protein	AB052293	AA833181 ESTP1M-2MF Rat Brain, Stratagene (cat.#936501) Rattus norvegicus cDNA clone pUC18/P1M-2MF 5' mRNA sequence [Rattus norvegicus]		
AA9440 73	42	P28751	43	BC014383	44	P28751	45	89.52	R. norvegicus mRNA for ribosomal protein L41	X82550	AA944073 EST199572 Rattus norvegicus cDNA, 5' end /clone=REMAA79 /clone_end=5 /gb=AA944073 /gi=3103989 /ug=Rn.2833 /len=480		60S ribosomal protein L41 (HG12).
AB0000 98	46	BAA243 51	47	BF690363	48	No Human Protein Found.		85	MIPP65		AB000098 Rattus norvegicus mRNA for MIPP65, complete cds /cds=(18,1394) /gb=AB000098 /gi=2780407 /ug=Rn.6452 /len=1468		



Table 2.

AB0000	49	BAA243	50	BF690363	51	XP_009784	85	MIPP65	AB000098 Rattus norvegicus mRNA for MIPP65, complete cds /cds=(18,1394) /gb=AB000098 /gi=2780407 /ug=Rn.8452 /len=1468	
AB0000	52	BAA243	53	BF690363	54	No Human Protein Found.	85	MIPP65	AB000098 Rattus norvegicus mRNA for MIPP65, complete cds /cds=(18,1394) /gb=AB000098 /gi=2780407 /ug=Rn.8452 /len=1468	
AB0000	55	BAA243	56	BF690363	57	XP_009784	85	MIPP65	AB000098 Rattus norvegicus mRNA for MIPP65, complete cds /cds=(18,1394) /gb=AB000098 /gi=2780407 /ug=Rn.8452 /len=1468	
AB0002	58	BAA198	59	AA281565	60	CAB452	61	95.02 CCA3	AB000216 Rat mRNA for CCA3, complete cds /cds=(413,3442) /gb=AB000216 /gi=2104557 /ug=Rn.11149 /len=4514	
AB0009	82	BAA244	63	M90366	64	Q05998	65	84.38 Zona pellucida 2 glycoprotein	AB000929 Rattus norvegicus mRNA for zona pellucida 2 glycoprotein, complete cds /cds=(18,2106) /gb=AB000929 /gi=2804567 /ug=Rn.10881 /len=2138	
AB0021	68	O88177	67	U91521	68	O00623	69	87.27 peroxisome assembly factor-3 (PAF-3)	AB002111 Rattus norvegicus mRNA for peroxisome assembly factor-3 (PAF-3), complete cds	Integral membrane protein.
AB0035	70	O08765	71	NM_0072	72	O08765	73	100 GEF-2	AB003515 Rat mRNA for GEF-2, complete cds /cds=(108,459) /gb=AB003515 /gi=2104569 /ug=Rn.3714 /len=963	Peroxisomal.
AB0039	74	BAA201	75	XM_04565		XP_04565	100	SNAP-25A	AB003991 rat mRNA for SNAP-25A, complete cds	Peroxisome assemblyfactor-3 (PAF-3).
AB0039	76	BAA201	77	XM_04565		XP_04565	100	SNAP-25A	AB003991 rat mRNA for SNAP-25A, complete cds	Ganglioside expression factor 2 (GEF-2)
AB0039	78	BAA201	79	XM_04565		XP_04565	100	SNAP-25A	AB003991 rat mRNA for SNAP-25A, complete cds	(General protein transportfactor p16) (GATE-16).

Table 2.

AB0039	80	BAA201	81	XM_04565	XP_045	100	SNAP-25A	AB003991 rat mRNA for SNAP-25A, complete cds
91	51		5		655			
AB0039	82	BAA201	83	XM_04565	XP_045	100	SNAP-25A	AB003991 rat mRNA for SNAP-25A, complete cds
91	51		5		655			
AB0039	84	BAA201	85	XM_04565	XP_045	100	SNAP-25A	AB003991 rat mRNA for SNAP-25A, complete cds
91	51		5		655			
AB0039	86	BAA201	87	NM_0030	P-13795	88	SNAP-25B	AB003992 Rat mRNA for SNAP-25B, complete cds
92	52		81			100		
AB0039	90	BAA201	91	NM_0030	P-13795	93	SNAP-25B	AB003992 Rat mRNA for SNAP-25B, complete cds
92	52		81			100		
AB0040	94	BAA203	95	U23942	Q16850	97	Lanosterol 14-demethylase	AB004096 Rat DNA for lanosterol 14-demethylase /cds=(126,1637) /gb=AB004096 /gi=2180005 /ug=Rn.6150 /len=3083
96	54					89		
AB0040	98	BAA203	99	U23942	Q16850	101	Lanosterol 14-demethylase	AB004096 Rat DNA for lanosterol 14-demethylase /cds=(126,1637) /gb=AB004096 /gi=2180005 /ug=Rn.6150 /len=3083
96	54					89		
AB0040	102	BAA203	103	U23942	Q16850	105	Lanosterol 14-demethylase	AB004096 Rat DNA for lanosterol 14-demethylase /cds=(126,1637) /gb=AB004096 /gi=2180005 /ug=Rn.6150 /len=3083
96	54					89		
AB0040	106	BAA203	107	U23942	Q16850	109	Lanosterol 14-demethylase	AB004096 Rat DNA for lanosterol 14-demethylase /cds=(126,1637) /gb=AB004096 /gi=2180005 /ug=Rn.6150 /len=3083
96	54					89		
AB0042	110	BAA203	111	NM_0189	NP_061	113	protocadherin 4	AB004276 Rat mRNA for protocadherin 4, complete cds
76	59		20		743	4		
AB0042	114	BAA203	115	NM_0189	NP_061	117	Protocadherin 5	AB004277 Rat mRNA for protocadherin 5, partial cds
77	60		28		752	5		
AB0042	118	BAA203	119	NM_0189	NP_061	121	Protocadherin 5	AB004277 Rat mRNA for protocadherin 5, partial cds
77	60		28		752	5		
AB0068	122	BAA220	123	NM_0189	NP_061	125	Protocadherin 6, partial cds	AB006802 Rattus rattus mRNA for protocadherin 6, partial cds
02	78		14		737	75		
AB0068	126	No Rat Protein Found.	No human homolog found.	No human homolog found.	No Human Protein Found.	PMF16		AB006881mRNA Rattus norvegicus mRNA for PMF16
81								
AB0076	127	BAA324	128	BC012109	XP_054	130	Vesl-2(delta 11)	AB007690 Rattus norvegicus mRNA for Vesl-2(delta 11), complete cds
90	79				356			

Table 2.

AB008521	131	BAA233	132	XM_003119	133	XP_003119	134	61	dynem light intermediate chain 53/55	AB008521 Rattus norvegicus mRNA for dynem light intermediate chain 53/55, partial cds
AB008538	135	BAA232	136	NM_001627	137	Q13740	138	89	HB2	AB008538 Rattus norvegicus mRNA for HB2, complete cds /cds=(188,1839) /gb=AB008538 /gi=2589006 /ug=Rn.5789 /len=2866
AB008807	139	BAA342	140	NM_004832	141	P78417	142	71	glutathione-dependent dehydroascorbate reductase	AB008807 Rattus norvegicus mRNA for glutathione-dependent dehydroascorbate reductase, complete cds
AB008807	143	BAA342	144	NM_004832	145	P78417	146	71	glutathione-dependent dehydroascorbate reductase	AB008807 Rattus norvegicus mRNA for glutathione-dependent dehydroascorbate reductase, complete cds
AB008807	147	BAA342	148	NM_004832	149	P78417	150	71	glutathione-dependent dehydroascorbate reductase	AB008807 Rattus norvegicus mRNA for glutathione-dependent dehydroascorbate reductase, complete cds
AB008807	151	BAA342	152	NM_004832	153	P78417	154	71	glutathione-dependent dehydroascorbate reductase	AB008807 Rattus norvegicus mRNA for glutathione-dependent dehydroascorbate reductase, complete cds
AB009463	155	BAA323	156	NM_019849	157	BAA323	158	92.31	Lrp105	AB009463 Rattus norvegicus mRNA for Lrp105, complete cds
AB009463	159	BAA323	160	NM_019849	161	BAA323	162	92.31	Lrp105	AB009463 Rattus norvegicus mRNA for Lrp105, complete cds

**Table 2.**

AB009836	163	O70173	164	AJ000008	165	O75747	166	85.9	Phosphoinositide 3-kinase	AB009836 Ratius norvegicus mRNA for phosphoinositide 3-kinase, complete cds /cds=(110,4627) /gb=AB009836 /gi=3059226 /ug=Rn.14870 /len=5858	Membrane-associated .	Phosphatidylinositol 3-kinase C2 domain-containing gamma polypeptide(EEC 2.7.1.137) (Phosphoinositide 3-Kinase-C2 gamma) (PtdIns 3-KinaseC2 gamma) (P13K-C2gamma).
AB009839	167	O35052	168	U65887	169	Q82803	170	86.11	CDP-diacylglycerol synthase	AB009839 Rattus norvegicus mRNA for CDP-diacylglycerol synthase, complete cds	Integral membrane protein.	Phosphatidate cytidyltransferase 1 (EC 2.7.7.41) (GDP-diglyceridesynthetase 1) (CDP-diglyceride pyrophosphorylase 1) (CDP-diacylglycerol synthase 1) (CDS 1) (CTP:phosphatidatecytidyltransferase 1)

Table 2.

AB0089	171	Q35052	172	U65687	173	Q92903	174	86.11	CDP- diacylglycerol synthase	AB008999 Rattus norvegicus mRNA for CDP- diacylglycerol synthase, complete cds	Integral membrane protein. CYTOPLAS MIC ASPECT OF THE ENDOPLAS MIC RETICULUM	Phosphatidate cytidyltransfer ase 1 (EC 2.7.7.41) (CDP- diglyceridesynth etase 1) (CDP- diglyceride pyrophosphoryla se 1) (CDP- diacylglycerol synthase 1) (CDS 1) (CTP:phosphat idatecytidyltran sferase 1)
AB0089	175	Q35052	176	U65687	177	Q92903	178	86.11	CDP- diacylglycerol synthase	AB008999 Rattus norvegicus mRNA for CDP- diacylglycerol synthase, complete cds	Integral membrane protein. CYTOPLAS MIC ASPECT OF THE ENDOPLAS MIC RETICULUM	Phosphatidate cytidyltransfer ase 1 (EC 2.7.7.41) (CDP- diglyceridesynth etase 1) (CDP- diglyceride pyrophosphoryla se 1) (CDP- diacylglycerol synthase 1) (CDS 1) (CTP:phosphat idatecytidyltran sferase 1)

Table 2.

AB0099	179	O35052	180	U65887	181	Q02903	182	86.11	CDP- diacylglycerol synthase		AB009999 Rattus norvegicus mRNA for CDP- diacylglycerol synthase, complete cds	Integral membrane protein . CYTOPLAS MIC ASPECT OF THE ENDOPLAS MIC RETICULUM	Phosphatidate cytidyltransfer ase 1 (EC 2.7.7.41) (CDP- diacylglycerol synthase 1) (CDP- diacylglycerol synthase 1) (CDS 1) (CTP:phosphat idatecytidyltran sferase 1)
AB0101	183	BAA363	184	AF387637	185	P27448	186	31	Rattus norvegicus sbk mRNA for serine/threonil ne protein kinase with SH3 ligand, expressed in hippocampus, complete cds		AB010154 Rattus norvegicus PKN mRNA for serine/threonine protein kinase expressed in hippocampus, partial cds		
AB0104	187	O86563	188	AK000791	189	O15438	190	92.66	Rattus norvegicus mRNA for multidrug resistance- associated protein (MRP)- like protein-2 (MLP-2), complete cds		AB010487 Rattus norvegicus mRNA for multidrug resistance-associated protein (MRP)-like protein-2 (MLP-2), complete cds	Integral membrane protein.	Canalicular multispecific organic anion transporter 2 (Multidrug resist ance-associated protein 3) (MRP- like protein-2) (MLP-2).

Table 2.

AB010743	191	P56500	192	AF011449	193	P55916	194	80.26	UCP2	AB010743 Rattus norvegicus mRNA for UCP2, complete cds /cds=(344,1273) /gb=AB010743 /gi=3062842 /ug=Rn.13333 /len=1575	Integral membrane protein. Mitochondrial inner membrane.	Mitochondrial uncoupling protein 2 (UCP2).
AB010960	195	BAA24832	196	AB010961	197	BAA24833	198	86	MIFR	AB010960 Rattus norvegicus mRNA for MIFR, complete cds		
AB010960	199	BAA24832	200	AB010961	201	BAA24833	202	86	Rattus norvegicus mRNA for MIFR, complete cds	AB010960 Rattus norvegicus mRNA for MIFR, complete cds		
AB011369	203	C62921	204	NM_031228	205	C9BYM8	206	79	RBCK2	AB011369 Rattus norvegicus mRNA for RBCK2, complete cds		Ubiquitin conjugating enzyme 7 interacting protein 3 (RBCK protein) interacting with PKC).
AB011528	207	BAA32459	208	AB011536	209	XP_042739	210	88.35	MEGF2	AB011528 Rattus norvegicus mRNA for MEGF2, complete cds		
AB011528	211	BAA32459	212	AB011536	213	XP_042739	214	88.35	MEGF2	AB011528 Rattus norvegicus mRNA for MEGF2, complete cds		
AB011679	215	P05218	216	AF070561	217	P20071	218	95	class I beta-tubulin	AB011679 Rattus norvegicus mRNA for class I beta-tubulin, complete cds		Class I beta tubulin. Tubulin beta-5 chain.
AB012234	218	P70257	220	U18759	221	Q14938	222	100	NF1-X1, partial cds	AB012234 Rattus norvegicus mRNA for NF1-X1, partial cds /cds=(0,535) /gb=AB012234 /gi=2982735 /ug=Rn.8647 /len=601		
AB012234	223	P70257	224	U18759	225	Q14938	226	100	NF1-X1, partial cds	AB012234 Rattus norvegicus mRNA for NF1-X1, partial cds /cds=(0,535) /gb=AB012234 /gi=2982735 /ug=Rn.8647 /len=601		

Table 2.

ABO131 12	227	BAA336 80	228	NM_0209 80	229	QA3315	230	75	Aquaporin	ABO13112 Rattus rattus mRNA for aquaporin, complete cds	60S ribosomal protein L17 (L23) (Amino acid starvation-induced protein) (ASI).
ABO134 54	231	P24049	232	X53777	233	P18621	234	99	R.norvegicus ASI mRNA for mammalian equivalent of bacterial large ribosomal subunit protein L22	ABO13494 Rattus norvegicus mRNA for NaP-2 beta, complete cds	
ABO137 32	235	O70189	236	AJ007702	237	O60701	238	88.76	UDP-glucose 6-dehydrogenase <sup>e</sup>	ABO13732 Rattus norvegicus mRNA for UDP-glucose 6-dehydrogenase, complete cds /cds=(10,1591) /gb=ABO13732 /gi=3133256 /ug=Rn.3967 /len=2318	UDP-glucose 6-dehydrogenase (EC 1.1.1.22) (UDP-Glc dehydrogenase) (UDP-GlcDH) (UDPGDH).
ABO147 22	239	BAA365 84	240	AI133253	241	CAA746 84	91.96	91.96	(SALT-1(806),	ABO14722 Rattus norvegicus mRNA for (SALT-1(806), complete cds	
ABO147 22	242	BAA365 84	243	AI133253	244	CAA746 84	91.96	91.96	(SALT-1(806),	ABO14722 Rattus norvegicus mRNA for (SALT-1(806), complete cds	
ABO151 91	245	NP_071 850	246	S82449	247	Q8UQ21	86.21	86.21	Rhesus blood group	ABO15191 Rattus norvegicus mRNA for Rh blood group protein, complete cds	
ABO151 91	249	NP_071 850	250	S82449	251	Q8UQ21	86.21	86.21	Rhesus blood group	ABO15191 Rattus norvegicus mRNA for Rh blood group protein, complete cds	
ABO159 46	253	Q9Z310	254	BC000819	255	P23258	92.57	92.57	Rattus norvegicus mRNA for tubulin, complete cds	ABO15946 Rattus norvegicus mRNA for tubulin, complete cds	Centrosome . Tubulin gamma-1 chain (Gamma-1 tubulin) (Gamma-tubulin complex component 1) (GCP-1).



Table 2.

AB016161	257	Q9Z0U4	258	AJ225028	259	Q9UBS5	260	97	Gamma-aminobutyric acid (GABA) B receptor, 1	AB016161cds Rattus norvegicus mRNA for GABAB receptor 1d, complete cds	INTEGRAL MEMBRANE PROTEIN. MOREOVER COEXPRESSION OF GABA-B-R1 AND GABA-B-R2 APPEARS TO BE A PREREQUISITE FOR MATURATION AND TRANSPORT OF GABA-B-R1 TO THE PLASMA MEMBRANE.	"Gamma-aminobutyric acid type B receptor, subunit 1 precursor (GABA-Breceptor 1) (GABA-B-R1) (Gb1)."
61												

Table 2.

AB016161	261	Q9Z0U4	262	AJ225028	263	Q9UBS5	264	97	Gamma-aminobutyric acid (GABA) B receptor, 1	AB016161UTR#1 Rattus norvegicus mRNA for GABAB receptor 1d, complete cds	INTEGRAL MEMBRANE PROTEIN. MOREOVER COEXPRESSION OF GABA-B-R1 AND GABA-B-R2 APPEARS TO BE A PREREQUISITE FOR MATURATION AND TRANSPORT OF GABA-B-R1 TO THE PLASMA MEMBRANE	"Gamma-aminobutyric acid type B receptor, subunit 1 precursor (GABA-B-Receptor 1) (GABA-B-R1) (Gb1)."
AB01616100	265	BAA34306	266	XM_006067	XP_006067			82	7-dehydrocholesterol reductase	AB016800 Rattus norvegicus mRNA for 7-dehydrocholesterol reductase, complete cds		
AB016800	267	BAA34306	268	XM_006067	XP_006067			82	7-dehydrocholesterol reductase	AB016800 Rattus norvegicus mRNA for 7-dehydrocholesterol reductase, complete cds		
AB016800	269	BAA34306	270	XM_006067	XP_006067			82	7-dehydrocholesterol reductase	AB016800 Rattus norvegicus mRNA for 7-dehydrocholesterol reductase, complete cds		
AB016800	271	BAA34306	272	XM_006067	XP_006067			82	7-dehydrocholesterol reductase	AB016800 Rattus norvegicus mRNA for 7-dehydrocholesterol reductase, complete cds		

Table 2.

AB017170	273	BAA351 87	274	AB017167	275	BAA351 84	276	96	Rattus norvegicus mRNA for Sll-1 protein, partial cds	AB017170 Rattus norvegicus mRNA for Sll-1 protein, partial cds	
AB017544	277	BAA368 35	278	AF045186	279	OT5381	280	89.79	peroxisomal membrane anchor protein	AB017544 Rattus norvegicus Pex14 mRNA for peroxisomal membrane anchor protein, complete cds	
AB017544	281	BAA368 35	282	AF045186	283	OT5381	284	89.79	peroxisomal membrane anchor protein	AB017544 Rattus norvegicus Pex14 mRNA for peroxisomal membrane anchor protein, complete cds	
AB017544	285	BAA368 35	286	AF045186	287	OT5381	288	89.79	peroxisomal membrane anchor protein	AB017544 Rattus norvegicus Pex14 mRNA for peroxisomal membrane anchor protein, complete cds	
AB017544	289	BAA368 35	290	AF045186	291	OT5381	292	89.79	peroxisomal membrane anchor protein	AB017544 Rattus norvegicus Pex14 mRNA for peroxisomal membrane anchor protein, complete cds	
AB017655	293	P10980	294	NM_0007 39	295	NP_000 730	296	89.21	Muscarinic receptor m2	AB017655 Rattus norvegicus mRNA for muscarinic receptor m2, complete cds	Integral membrane protein.
AB017711	297	O88828	298	NM_0219 74	299	P41584	300	90.98	RNA polymerase II	AB017711 Rattus norvegicus mRNA for RNA polymerase II, complete cds	Nuclear. RNA polymerase II 14.4 kDa polypeptide (EC 2.7.7.6)(RPB6 (RPB14.4).

Table 2.

AB017912	301	O70436	302	U68018	303	Q15796	304	91.46	Smad2 protein	AB017912 Rattus norvegicus mRNA for Smad2 protein, complete cds	IN THE CYTOPLASM IN THE ABSENCE OF LIGAND; MIGRATION TO THE NUCLEUS WHEN COMPLEXED WITH SMAD4.	Mothers against decapentaplegic homolog 2 (SMAD 2) (Mothers against DPP homolog 2) (Mad-related protein 2).
AB017912	305	O70436	306	U68018	307	Q15796	308	91.46	Smad2 protein	AB017912 Rattus norvegicus mRNA for Smad2 protein, complete cds	IN THE CYTOPLASM IN THE ABSENCE OF LIGAND; MIGRATION TO THE NUCLEUS WHEN COMPLEXED WITH SMAD4.	Mothers against decapentaplegic homolog 2 (SMAD 2) (Mothers against DPP homolog 2) (Mad-related protein 2).
AB017912	309	O70436	310	U68018	311	Q15796	312	91.46	Smad2 protein	AB017912 Rattus norvegicus mRNA for Smad2 protein, complete cds	IN THE CYTOPLASM IN THE ABSENCE OF LIGAND; MIGRATION TO THE NUCLEUS WHEN COMPLEXED WITH SMAD4.	Mothers against decapentaplegic homolog 2 (SMAD 2) (Mothers against DPP homolog 2) (Mad-related protein 2).

Table 2.

AB017912	313	O70436	314	U86018	315	Q15786	316	91.46	Smad2 protein	AB017912 Rattus norvegicus mRNA for Smad2 protein, complete cds	IN THE CYTOPLASM IN THE ABSENCE OF LIGAND; MIGRATION TO THE NUCLEUS WHEN COMPLEXED WITH SMAD4.	Mothers against decapentaplegic homolog 2 (SMAD 2) (Mothers against DPP homolog 2) (Mad-related protein 2).
AB0189383	317	Q9R1J4	318	U86257	319	Q98972	320	82.95	myocilin	AB019393 Rattus norvegicus mRNA for myocilin, complete cds	"LOCATED PREFERENTIALLY IN THE CILIARY ROOTLET AND BASAL BODY OF THE CONNECTING CILIUM OF PHOTORECEPTOR CELLS, AND IN THE ROUGH ENDOPLASMIC RETICULUM. ALSO SECRETED."	Myocilin precursor (Trabecular meshwork-induced glucocorticoid response protein).
AB020504	321	BAA34715	322	AY008274	323	No Human Protein Found.	324	96.34	PMF31	AB020504 Rattus norvegicus mRNA for PMF31, complete cds		

Table 2.

AB020504	325	BAA34715	326	AY008274	327	No Human Protein Found.	328	96.34	PMF31	AB020504 Rattus norvegicus mRNA for PMF31, complete cds	
AB020504	329	BAA34715	330	AY008274	331	No Human Protein Found.	332	96.34	PMF31	AB020504 Rattus norvegicus mRNA for PMF31, complete cds	
AB020504	333	BAA34715	334	AY008274	335	No Human Protein Found.	336	96.34	PMF31	AB020504 Rattus norvegicus mRNA for PMF31, complete cds	
AB022014	337	Q972X3	338	AB009619	339	OT5832	340	92.68	Gankyrin homologue, complete cds	AB022014 Rattus norvegicus mRNA for gankyrin homologue, complete cds	26S proteasome non-ATPase regulatory subunit 10 (26S proteasome regulatory subunit p28) (Gankyrin).
AF000114	341	P97846	342	U87223	343	P78367	344	88.14	Contactin associated protein 1	AF000114 Rattus norvegicus paranodin mRNA, complete cds (141,4286) /gb=AF000114 /gi=2228764 /ug=Rn.10703 /len=5350	Type I membrane protein. Contactin associated protein 1 precursor (Casp1) (Neurexin 4) (Neurexin IV) (p180) (Paranodin).

Table 2.

AF000114	345	P97846	346	U87223	347	P78357	348	88.14	Contactin associated protein 1	AF000114 Rattus norvegicus paranodin mRNA, complete cds /cds=(141,4286) /gb=AF000114 /gi=2228764 /ug=Rn.10703 /len=5350	Type I membrane protein.	Contactin associated protein 1 precursor (Casp1) (Neurexin 4)(Neurexin IV) (p190) (Paranodin).
AF000368	349	AAB50403	350	X82835	351	SS4771	352	87.67	Rattus norvegicus voltage-gated sodium channel mRNA (PN1)	AF000368 Rattus norvegicus voltage-gated sodium channel mRNA, complete cds /cds=(0,5954) /gb=AF000368 /gi=2501837 /ug=Rn.10831 /len=9316		
AF000368	353	AAB50403	354	X82835	355	SS4771	356	87.67	Rattus norvegicus voltage-gated sodium channel mRNA (PN1)	AF000368 Rattus norvegicus voltage-gated sodium channel mRNA, complete cds /cds=(0,5954) /gb=AF000368 /gi=2501837 /ug=Rn.10831 /len=9316		
AF000423	357	O08635	358	D38522	359	Q98T86	360	83.38	synaptotagmin XI	AF000423 Rattus norvegicus synaptotagmin XI mRNA, complete cds /cds=(242,1534) /gb=AF000423 /gi=2130831 /ug=Rn.8805 /len=2426	INTEGRAL MEMBRANE PROTEIN, SYNAPTIC VESICLES.	Synaptotagmin XI (Syx).
AF000899	361	AAC82319	362	XM_037529	XP_037529				p58/p45 mRNA, alternatively spliced form	AF000899 RNP58S02 Rattus norvegicus p58/p45 mRNA, alternatively spliced form, clone H6, 3 end		
AF000899	363	AAC82319	364	XM_037529	XP_037529				p58/p45 mRNA, alternatively spliced form	AF000899 RNP58S02 Rattus norvegicus p58/p45 mRNA, alternatively spliced form, clone H6, 3 end		
AF000899	365	AAC82319	366	XM_037529	XP_037529				p58/p45 mRNA, alternatively spliced form	AF000899 RNP58S02 Rattus norvegicus p58/p45 mRNA, alternatively spliced form, clone H6, 3 end		

Table 2.									
AF00089	367	AAC82	368	XM_03762	XP_037		p58/p45	AF000899 RNP68S02 Rattus norvegicus p58/p45 mRNA, alternatively spliced form, clone H6, 3' end	
		319		9	528		mRNA, alternatively spliced form		
AF00094	369	P41138	370	X66924	Q02535		Inhibitor of DNA binding 3, dominant negative helix-loop-helix protein	AF000942 Rattus norvegicus lcl3a mRNA, complete cds	Nuclear.
AF00147	373	Q36819	374	U44975	Q98812		zinc finger protein	AF001417 Rattus norvegicus zinc finger protein mRNA, complete cds	Nuclear.
AF00195	377	AAB569	378	AF300650	O14775		G protein beta 5 subunit	AF001953 Rattus norvegicus G protein beta 5 subunit mRNA, partial cds	
		74							
AF00195	381	AAB569	382	AF300650	O14775		G protein beta 5 subunit	AF001953 Rattus norvegicus G protein beta 5 subunit mRNA, partial cds	
		74							
AF00225	385	AAB718	386	AK056568	NP_113		Maxp1	AF002251 Rattus norvegicus Maxp1 mRNA, complete cds /cds=(128, 1369) /gb=AF002251 /gi=2458832 /ug=Rn.10824 /len=3471	
		21			625				
AF00228	389	AAC16	390	AF039018	XP_003		alpha-actinin-2 associated LIM protein	AF002281 Rattus norvegicus alpha-actinin-2 associated LIM protein mRNA, complete cds /cds=(99, 1187) /gb=AF002281 /gi=3138921 /ug=Rn.13361 /len=1586	
		671			374				
AF00382	393	AAD09	394	U93703	O00451		GDNF receptor-beta	AF003825 Rattus norvegicus GDNF receptor-beta mRNA, partial cds	
		310							







Table 2.

AF008439	448	054802	449	AB004857	450	P49281	451	89.74	natural resistance-associated macrophage protein 2	AF008439 Rattus norvegicus natural resistance-associated macrophage protein 2 (Nramp2) mRNA, complete cds /cds=(104,1789) /gb=AF008439 /g =2327066 /ug=Rn.11418 /len=4331	Integral membrane protein.	Natural resistance-associated macrophage protein 2 (NRAMP 2) (Metalion transporter DCT1).
AF008439	452	054902	453	AB004857	454	P49281	455	89.74	natural resistance-associated macrophage protein 2	AF008439 Rattus norvegicus natural resistance-associated macrophage protein 2 (Nramp2) mRNA, complete cds /cds=(104,1789) /gb=AF008439 /g =2327066 /ug=Rn.11418 /len=4331	Integral membrane protein.	Natural resistance-associated macrophage protein 2 (NRAMP 2) (Metalion transporter DCT1).
AF008554	456	035777	457	AK027632	458	AAB183	459	81.29	Rattus norvegicus implantation-associated protein (IAG2) mRNA, partial cds	AF008554 Rattus norvegicus implantation-associated protein (IAG2) mRNA, partial cds /cds=(0,926) /gb=AF008554 /g =2258450 /ug=Rn.10782 /len=1087	Integral membrane protein.	Implantation-associated protein.
AF008554	460	035777	461	AK027632	462	AAB183	463	91.29	Rattus norvegicus implantation-associated protein (IAG2) mRNA, partial cds	AF008554 Rattus norvegicus implantation-associated protein (IAG2) mRNA, partial cds /cds=(0,926) /gb=AF008554 /g =2258450 /ug=Rn.10782 /len=1087	Integral membrane protein.	Implantation-associated protein.

Table 2.

AF009329	464	O35779	465	NM_030762	466	Q8C0J9	467	67	enhancer-of-split and hairy-related protein 1	AF009329 Rattus norvegicus enhancer-of-split and hairy-related protein 1 (SHARP-1) mRNA, complete cds /cds=(237,998) /gb=AF009329 /gi=2267586 /ug=Rn.10784 /len=3101	Nuclear .	Class B basic helix-loop-helix protein 3 (bHLHB3) (Enhancer-of-split and hairy-related protein 1) (SHARP-1).
AF009330	468	O35780	469	NM_003670	470	O14503	471	80	Rattus norvegicus enhancer-of-split and hairy-related protein 2 (SHARP-2) mRNA	AF009330 Rattus norvegicus enhancer-of-split and hairy-related protein 2 (SHARP-2) mRNA, complete cds /cds=(319,1554) /gb=AF009330 /gi=2267588 /ug=Rn.10785 /len=2388	Nuclear .	Class B basic helix-loop-helix protein 2 (bHLHB2) (Enhancer-of-split and hairy-related protein 2) (SHARP-2).
AF009603	472	O35179	473	NM_003026	474	Q89862	475	97	SH3p4 mRNA, partial cds	AF009603 Rattus norvegicus SH3p4 mRNA, partial cds /cds=(0,746) /gb=AF009603 /gi=2293487 /ug=Rn.10787 /len=1103		SH3-containing GRB2-like protein 2 (SH3 domain protein 2A) (Endophilin1) (SH3p4) (Fragment).
AF013144	476	O54838	477	NM_004419	478	Q16690	479	87.8	Rattus norvegicus MAP-kinase phosphatase (Gp921) mRNA, complete cds	AF013144 Rattus norvegicus MAP-kinase phosphatase (Gp921) mRNA, complete cds /cds=(174,1328) /gb=AF013144 /gi=2746069 /ug=Rn.10877 /len=2436	Nuclear .	Dual specificity protein phosphatase 5 (EC 3.1.3.48) (EC 3.1.3.16) (MAP-kinase phosphatase CPG21).

Table 2.

AF013144	480	OS4838	481	NM_0044	482	Q16690	483	87.8	Rattus norvegicus MAP-kinase phosphatase (ppg21) mRNA, complete cds /cds=(174,1326) /gb=AF013144 /lg=2746069 /ug=Rn.10877 /len=2436	Nuclear.	Dual specificity protein phosphatase 5 (EC 3.1.3.48) (EC 3.1.3.16) (MAP-kinase phosphatase CPG21).
AF014009	484	O35244	485	D14662	486	P30041	487	89.11	AF014009 Rattus norvegicus acidic calcium-independent phospholipase A2 (aiPLA2) mRNA, complete cds /cds=(20,694) /gb=AF014009 /lg=2317734 /ug=Rn.42 /len=656	"CYTOPLAS MIC, LYSOSOMA LAND ALSO FOUND IN LUNG SECRETORY ORGANELL ES."	Antioxidant protein 2 (1-Cys peroxiredoxin) (1-Cys PRX) (Acidiccalcium-independent phospholipase A2) (EC 3.1.1.-) (aiPLA2) (Non-selenium glutathione peroxidase) (EC 1.11.1.7) (NSGPX) (Thiol-specifican
AF014503	488	O54842	489	NM_0123	490	O60356	491	63	AF014503 Rattus norvegicus p8 mRNA, complete cds /cds=(64,286) /gb=AF014503 /lg=2735928 /ug=Rn.11182 /len=592	Nuclear.	Protein p8 (Candidate of metastase 1).

Table 2.

AF015304	492	OS4698	493	U81375	494	Q99808	495	87.65	Solute carrier family 29 (nucleoside transporters), member 1	AF015304 Rattus norvegicus equilibrative nitrobenzylthioinosine-sensitive nucleoside transporter mRNA, complete cds /cds=4,1377 /gb=AF015304 /gi=2656136 /ug=Rn.5814 /len=1768	Integral membrane protein.	"Equilibrative nucleoside transporter 1 (Equilibrative nitrobenzylmercaptopyurine riboside-sensitive nucleoside transporter)(Equilibrative NBMPR-sensitive nucleoside transporter) (Nucleoside transporter."
AF015305	496	OS4699	497	AF034102	498	Q14542	499	67	Equilibrative nitrobenzylthioinosine-insensitive nucleoside transporter mRNA	AF015305 Rattus norvegicus equilibrative nitrobenzylthioinosine-insensitive nucleoside transporter mRNA, complete cds /cds=(167,1527) /gb=AF015305 /gi=2656136 /ug=Rn.7203 /len=1678	Integral membrane protein.	Equilibrative nucleoside transporter 2 (Equilibrative nitrobenzylmercaptopyurine riboside-insensitive nucleoside transporter)(Equilibrative NBMPR-insensitive nucleoside transporter) (Nucleoside transporter
AF015719	500	P97604	501	Y09908	502	P40933	503	85.37	Interleukin-15 (IL-15)	AF015719 Rattus norvegicus Interleukin-15 (IL-15) mRNA, complete cds	Secreted.	Interleukin-15 precursor (IL-15).

Table 2.

AF016047	504	O35263	505	D63391	506	Q15102	507	90.12	platelet-activating factor acetylhydrolase alpha 1 subunit	AF016047 Rattus norvegicus platelet-activating factor acetylhydrolase alpha 1 subunit (PAF-AH alpha 1) gene, complete cds /cds=0.688) /gb=AF016047 /g=2501856 /ug=Rn.17971 /len=699	Cytoplasmic.	Platelet-activating factor acetylhydrolase IB gamma subunit (EC 3.1.1.47) (PAF acetylhydrolase 29 kDa subunit) (PAF-AH 29 kDa subunit) (PAF-AH gamma subunit) (PAFAH gamma subunit) (Platelet-activating f
AF016252	508	O35274	509	BC016162	510	NP_115984	511	98	Sphnophilin	AF016252 Rattus norvegicus Sphnophilin mRNA, complete cds /cds=(513,2966) /gb=AF016252 /g=2462850 /ug=Rn.5764 /len=4505	ENRICHED AT SYNAPSE AND CADHERIN-BASED CELL-CELL ADHESION SITES.	Neurabin-II (Neural tissue-specific F-actin binding protein II) (Protein phosphatase 1 regulatory subunit 9B) (Sphnophilin) (p130)(PP1bp134).
AF016387	512	AAD01591	513	NM_006917	514	P48443	515	97	retinoid X receptor gamma (RXRgamma)	AF016387 Rattus norvegicus retinoid X receptor gamma (RXRgamma) mRNA, partial cds		
AF016387	516	AAD01591	517	NM_006917	518	P48443	519	97	retinoid X receptor gamma (RXRgamma)	AF016387 Rattus norvegicus retinoid X receptor gamma (RXRgamma) mRNA, partial cds		

AF0174	520	AAB702	521	NM_0017	522	Q08722	523	62	Integrin-associated protein	AF017437 Rattus norvegicus Integrin-associated protein form 4 (IAP) mRNA, complete cds /cds=(10,966) /gb=AF017437 /gi=2394317 /ug=Rn.10723 /len=1183
37	73			77						
AF0174	524	AAB702	525	NM_0017	526	Q08722	527	62	Integrin-associated protein	AF017437 Rattus norvegicus Integrin-associated protein form 4 (IAP) mRNA, complete cds /cds=(10,966) /gb=AF017437 /gi=2394317 /ug=Rn.10723 /len=1183
37	73			77						
AF0182	528	AAC33	529	NM_0133	530	XP_034		89.54	EH domain binding protein Epsin	AF018261 Rattus norvegicus EH domain binding protein Epsin mRNA, complete cds
61	823			33		403				
AF0180	531	Q08877	532	AF000430	533	JC5695	534	100	Rattus norvegicus dynamin-like protein DLP1 isoform DLP1-37 mRNA, complete cds	AF018043 Rattus norvegicus dynamin-like protein (DLP1) mRNA, complete cds /cds=(737,3004) /gb=AF018043 /gi=2425051 /ug=Rn.10830 /len=3845
43										
AF0198	535	Q63563	538	AK056519	537	XP_016		86.54	Sulfonylurea receptor 2B mRNA	AF019828 Rattus norvegicus sulfonylurea receptor 2B mRNA, complete cds
28						813				
AF0202	538	AAB712	539	XM_05017		XP_050		83	DLP1 splice variant 4	AF020210 Rattus norvegicus DLP1 splice variant 4 (DLP1) mRNA, partial cds
10	35			5		175				
AF0202	540	AAB712	541	XM_05017		XP_050		83	DLP1 splice variant 4	AF020210 Rattus norvegicus DLP1 splice variant 4 (DLP1) mRNA, partial cds
10	35			5		175				
AF0202	542	AAB712	543	NM_0120	544	NP_036	545	72	DLP1 splice variant 2 (DLP1)	AF020212 Rattus norvegicus DLP1 splice variant 2 (DLP1) mRNA, partial cds
12	37			62		182				
AF0206	546	AAC24	547	XM_00908	548	XP_009	549	34	Rattus norvegicus progression elevated gene 3 protein mRNA, complete cds	AF020618 Rattus norvegicus progression elevated gene 3 protein mRNA, complete cds
18	880			7		097				



Table 2.

AF020618	550	AAC24 980	551	XM_009097	552	XP_008097	553	34	Rattus norvegicus progression elevated gene 3 protein mRNA, complete cds	AF020618 Rattus norvegicus progression elevated gene 3 protein mRNA, complete cds	
AF020712	554	AAD11 858	555	NM_004137	556	Q16556	557	82	Maxi potassium channel beta subunit	AF020712 Rattus norvegicus Maxi potassium channel beta subunit mRNA, complete cds /cds=(313,888) /gb=AF020712 /gl=2444423 /ug=Rn.10820 /len=1267	
AF021923	558	OS4701	559	AF177987	560	Q9U140	561	90.38	Potassium-dependent sodium-calcium exchanger	AF021923 Rattus norvegicus potassium-dependent sodium-calcium exchanger (NCKX2) mRNA, complete cds /cds=(148,2160) /gb=AF021923 /gf=2652460 /ug=Rn.10859 /len=8942	Integral membrane protein.
AF022742	562	AAB809 23	563	X05495	564	P07204	565	68	Thrombomodulin precursor gene, promoter region and partial cds	AF022742 Rattus norvegicus thrombomodulin precursor gene, promoter region and partial cds	
AF022819	566	AAD09 336	567	U33632	568	O00180	569	90.19	Rattus norvegicus putative potassium channel TWIK mRNA	AF022819 Rattus norvegicus putative potassium channel TWIK mRNA, complete cds	

Table 2.

AF023657	570	AAB869 25	571	NM_0246 41	572	NP_078 917	573	88	endo-alpha-D- mannosidase (Enman)	AF023657 Rattus norvegicus endo-alpha-D- mannosidase (Enman) mRNA, complete cds /cds=(88,1443) /gb=AF023657 /gi=2642186 /ug=Rn.10855 /len=2552	
AF025308	574	AAB822 85	575	No human homolog found.		No Human Protein Found.			MHC class Ib antigen (RT1.C1)	AF025308 Rattus norvegicus MHC class Ib antigen (RT1.C1) gene, complete cds /cds=(0,1133) /gb=AF025308 /gi=2570820 /ug=Rn.11244 /len=1134	
AF026504	576	AAB815 26	577	AC004974	578	AAC831 79	578	81	SPA-1 like protein p1284	AF026504 Rattus norvegicus SPA-1 like protein p1284 mRNA, complete cds /cds=(733,6201) /gb=AF026504 /gi=2555182 /ug=Rn.10835 /len=6400	
AF026505	580	AAB815 27	581	AF396457	582	NP_066 547	583	98.19	SH3- containing protein p4015	AF026505 Rattus norvegicus SH3-containing protein p4015 mRNA, complete cds /cds=(680,4270) /gb=AF026505 /gi=2555184 /ug=Rn.10836 /len=6331	
AF026505	584	AAB815 27	585	AF396457	586	NP_066 547	587	98.19	Rattus norvegicus SH3- containing protein p4015	AF026505 Rattus norvegicus SH3-containing protein p4015 mRNA, complete cds /cds=(680,4270) /gb=AF026505 /gi=2555184 /ug=Rn.10836 /len=6331	
AF026529	588	O35414	589	AJ303455	590	Q9H189	591	95.19	Statthmin-like- protein RB3	AF026529 Rattus norvegicus statthmin-like- protein splice variant RB3 mRNA, complete cds /cds=(120,650) /gb=AF026529 /gi=2585982 /ug=Rn.5658 /len=1305	Statthmin 4 (Statthmin-like protein B3) (RB3).
AF026554	592	O70247	593	AL086737	594	Q9Y289	595	90.48	Rattus norvegicus sodium- dependent multi-vitamin transporter (SMVT) mRNA, complete cds	AF026554 Rattus norvegicus sodium- dependent multi-vitamin transporter (SMVT) mRNA, complete cds /cds=(412,2316) /gb=AF026554 /gi=3015816 /ug=Rn.11105 /len=3076	Integral membrane protein.  Sodium- dependent multi-vitamin transporter (Na(+)- dependent multi- vitamin transporter).

Table 2.

AF0285 54	596	O70247	597	AL096737	598	Q9Y289	599	90,48	Rattus norvegicus sodium- dependent multi-vitamin transporter (SMVT) mRNA, complete cds	AF026554 Rattus norvegicus sodium- dependent multi-vitamin transporter (SMVT) mRNA, complete cds /cds=(412,2316) /gb=AF026554 /gl=3015616 /ug=Rn.11105 /len=3075	Integral membrane protein.	Sodium- dependent multi-vitamin transporter (Na(+)- dependent multi- vitamin transporter).
AF0275 71	600	Q8QW0 7	601	L41349	602	Q15147	603	91.97	Phospholipase C, beta4	AF027571 Rattus norvegicus phospholipase C-beta 4 isoform (PLC-b4) mRNA, partial cds		"1- phosphatidylino- sitol-4,5- bisphosphate phospholipase beta 4 (EC 3.1.4.11) (PLC- beta-4) (Phospholipase C-beta-4)."
AF0292 40	604	g31500 54		M20022	605	P29401	606	62	Rattus norvegicus MHC class Ib RT1.S3 (RT1.S3) mRNA, partial cds	AF029240 Rattus norvegicus MHC class Ib RT1.S3 (RT1.S3) gene, complete cds /cds=(0,1091) /gb=AF029240 /gl=3150053 /ug=Rn.14674 /len=2653		
AF0292 40	607	g31500 54		M20022	608	P29401	609	62	Rattus norvegicus MHC class Ib RT1.S3 (RT1.S3) mRNA, partial cds	AF029240 Rattus norvegicus MHC class Ib RT1.S3 (RT1.S3) gene, complete cds /cds=(0,1091) /gb=AF029240 /gl=3150053 /ug=Rn.14674 /len=2653		
AF0300 50	610	AAD01 890	611	L23320	612	AAA161 21	613	69	Replication factor C mRNA, partial cds	AF030050 Rattus norvegicus replication factor C mRNA, partial cds		

Table 2.

AF030087	614	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		Rat activity and neurotransmitter-induced early gene 2 (ania-2)	AF030087UTR#1 Rattus norvegicus activity and neurotransmitter-induced early gene 2 (ania-2) mRNA, 3 UTR
AF030087	615	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		Rat activity and neurotransmitter-induced early gene 2 (ania-2)	AF030087UTR#1 Rattus norvegicus activity and neurotransmitter-induced early gene 2 (ania-2) mRNA, 3 UTR
AF030087	616	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		Rat activity and neurotransmitter-induced early gene 2 (ania-2)	AF030087UTR#1 Rattus norvegicus activity and neurotransmitter-induced early gene 2 (ania-2) mRNA, 3 UTR
AF030087	617	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		Rat activity and neurotransmitter-induced early gene 2 (ania-2)	AF030087UTR#1 Rattus norvegicus activity and neurotransmitter-induced early gene 2 (ania-2) mRNA, 3 UTR
AF030089	618	AAD43 824	619 BI598343	620 O15075	621	95 activity and neurotransmitter-induced early gene 2 (ania-2)	AF030089UTR#1 Rattus norvegicus activity and neurotransmitter-induced early gene 4 (ania-4) mRNA, 3 UTR
AF030091	622	AAD45 558	623 AY034790	624 NP_084 703	625	93.42 Rattus norvegicus cyclin ania-6a mRNA, complete cds	AF030091UTR#1 Rattus norvegicus activity and neurotransmitter-induced early gene 6 (ania-6) mRNA, 3 UTR
AF030091	626	AAD45 558	627 AY034790	628 NP_084 703	629	93.42 Rattus norvegicus cyclin ania-6a mRNA, complete cds	AF030091UTR#1 Rattus norvegicus activity and neurotransmitter-induced early gene 6 (ania-6) mRNA, 3 UTR

Table 2.

AF03001 91	830	AAD45 558	631	AY034790	632	NP_064 703	633	93.42	Rattus norvegicus cyclin anla-6a mRNA, complete cds	AF030091UTR#1 Rattus norvegicus activity and neurotransmitter-induced early gene 6 (anla-6) mRNA, 3 UTR			
AF03001 91	634	AAD45 558	635	AY034790	636	NP_064 703	637	93.42	Rattus norvegicus cyclin anla-6a mRNA, complete cds	AF030091UTR#1 Rattus norvegicus activity and neurotransmitter-induced early gene 6 (anla-6) mRNA, 3 UTR			
AF03003 58	638	O55145	639	U84487	640	P78423	641	86.01	Rattus norvegicus chemokine CX3C mRNA, complete cds	AF030358 Rattus norvegicus chemokine CX3C mRNA, complete cds	TYPE I MEMBRANE PROTEIN. ALSO EXISTS AS A SECRETED PROTEIN .	Fractalkine precursor (CX3CL1) (Neurotactin) (CX3C membrane- anchoredchemo kine) (Small Inducible cytokine D1).	
AF03003 58	642	O55145	643	U84487	644	P78423	645	86.01	Rattus norvegicus chemokine CX3C mRNA, complete cds	AF030358 Rattus norvegicus chemokine CX3C mRNA, complete cds	TYPE I MEMBRANE PROTEIN. ALSO EXISTS AS A SECRETED PROTEIN .	Fractalkine precursor (CX3CL1) (Neurotactin) (CX3C membrane- anchoredchemo kine) (Small Inducible cytokine D1).	
AF0314 30	646	O70257	647	BC011875	648	O15400	649	87.11	Syntaxin 7	AF031430 Rattus norvegicus syntaxin 7 mRNA, complete cds	TYPE IV MEMBRANE PROTEIN. EARLY ENDOSOME MEMBRANE S.	Syntaxin 7.	

Table 2.

AF0542 46	650	AAC64 920	651	NIM_0200 61	652	NP_084 445	653	89	Rattus norvegicus green- sensitive opsin mRNA, partial cds	AF031528	AF031528 Rattus norvegicus green-sensitive opsin mRNA, partial cds			
AF0316 42	654	AAD01 938	655	NIM_0071 63	656	Q15849	657	64	Urea transporter (UT4) mRNA		AF031642 Rattus norvegicus kidney urea transporter (UT4) mRNA, complete cds			
AF0316 57	658	AAC53 578	659	NIM_0034 25	660	Q02386	661	86	Zinc-finger protein 94 (Zfp94) gene, partial cds		AF031657mRNA Rattus norvegicus zinc- finger protein 94 (Zfp94) gene, partial cds			
AF0321 20	662	Q8Z254	663	AF028824	664	O14908	665	87.98	Regulator of G protein signaling 19	AF089817	AF032120 Rattus norvegicus GLUT1 transporter C-terminal binding protein mRNA, complete cds	CYTOPLAS MIC AND MEMBRANE- ASSOCIATE D.	GAIP C- terminus interacting protein GIPC (RGS-GAIP interactingprotei n) (GLUT1 C- terminal binding protein) (GLUT1CBP).	
AF0321 20	666	Q8Z254	667	AF028824	668	O14908	669	87.98	Regulator of G protein signaling 19		AF032120 Rattus norvegicus GLUT1 transporter C-terminal binding protein mRNA, complete cds	CYTOPLAS MIC AND MEMBRANE- ASSOCIATE D.	GAIP C- terminus interacting protein GIPC (RGS-GAIP interactingprotei n) (GLUT1 C- terminal binding protein) (GLUT1CBP).	

Table 2.

AF032120	670	Q9Z254	671	AF028824	672	O14908	673	87.98	Regulator of G-protein signaling 19	AF032120 Rattus norvegicus GLUT1 transporter C-terminal binding protein mRNA, complete cds	CYTOPLASMIC AND MEMBRANE ASSOCIATE D.	GAIP C-terminus interacting protein GIPC (RGS-GAIP interacting protein) (GLUT1 C-terminal binding protein) (GLUT1CBP).
AF032668	674	AAC01578	675	AJ420556	676	CAB54145	677	87.98	Rattus norvegicus rsec5 mRNA, complete cds	AF032668 Rattus norvegicus rsec5 mRNA, complete cds /cds=(199,2973) /gb=AF032668 /gi=2827157 /ug=Rn.2869 /len=4285		
AF032668	678	AAC01578	679	AJ420556	680	CAB54145	681	87.98	Rattus norvegicus rsec5 mRNA, complete cds	AF032668 Rattus norvegicus rsec5 mRNA, complete cds /cds=(199,2973) /gb=AF032668 /gi=2827157 /ug=Rn.2869 /len=4285		
AF032668	682	AAC01578	683	AJ420556	684	CAB54145	685	87.98	Rattus norvegicus rsec5 mRNA, complete cds	AF032668 Rattus norvegicus rsec5 mRNA, complete cds /cds=(199,2973) /gb=AF032668 /gi=2827157 /ug=Rn.2869 /len=4285		
AF032668	686	AAC01578	687	AJ420556	688	CAB54145	689	87.98	Rattus norvegicus rsec5 mRNA, complete cds	AF032668 Rattus norvegicus rsec5 mRNA, complete cds /cds=(199,2973) /gb=AF032668 /gi=2827157 /ug=Rn.2869 /len=4285		
AF032668	690	AAC01580	691	AK002113	692	CAB70736	693	90.6	rsec15	AF032668 Rattus norvegicus rsec15 mRNA, complete cds /cds=(340,2808) /gb=AF032668 /gi=2827161 /ug=Rn.1188 /len=3059		





Table 2.

AF033109	702	Q8Z2Q7	703	AF036715	704	P35988	705	88	syntxin 8	AF033109 Rattus norvegicus syntxin 8 mRNA, complete cds	"INTEGRAL MEMBRANE PROTEIN. PREFERENT IALLY ASSOCIATED WITH THE EARLY ENDOSOME . TO LESSER EXTENDS, ALSO PRESENT IN LATE ENDOSOME , THE PLASMA MEMBRANE AND COATED PITS."	Syntaxin 8.
AF034218	706	AAD01980	707	BC000692	708	NP_149348	709	82.99	Hyaluronidase	AF034218 Rattus norvegicus hyaluronidase (Hyal2) mRNA, complete cds		
AF034218	710	AAD01980	711	BC000692	712	NP_149348	713	82.99	Hyaluronidase	AF034218 Rattus norvegicus hyaluronidase (Hyal2) mRNA, complete cds		
AF034582	714	AAD01980	715	AB020712	716	BAA74928	717	79	Vesicle associated protein (VAP1)	AF034582 Rattus norvegicus vesicle associated protein (VAP1) mRNA, complete cds		
AF034582	718	AAD01980	719	AB020712	720	BAA74928	721	79	Vesicle associated protein (VAP1)	AF034582 Rattus norvegicus vesicle associated protein (VAP1) mRNA, complete cds		

Table 2.

AF034889	722	JC5836	723	L35475	724	Q15082	725	44	Rattus norvegicus olfactory receptor-like protein (SCR D-9) gene, complete cds	AF034889 Rattus norvegicus olfactory receptor-like protein (SCR D-9) gene, complete cds /cds=(0,965) /gb=AF034889 /gi=3153224 /ug=Rn.14522 /len=1086	
AF034889	726	JC5836	727	L35475	728	Q15082	729	44	Rattus norvegicus olfactory receptor-like protein (SCR D-9) gene, complete cds	AF034889 Rattus norvegicus olfactory receptor-like protein (SCR D-9) gene, complete cds /cds=(0,965) /gb=AF034889 /gi=3153224 /ug=Rn.14522 /len=1086	
AF034900	730	AAC17224	731	NM_013941	732	NP_039228	733	57	Olfactory receptor-like protein (SCR D-7)	AF034900mRNA Rattus norvegicus olfactory receptor-like protein (SCR D-7) gene, complete cds	
AF036255	734	O70277	735	AF220021	736	O75382	737	92.2	RING finger protein	AF036255 Rattus norvegicus RING finger protein mRNA, complete cds /cds=(220,2454) /gb=AF036255 /gi=3170008 /ug=Rn.14524 /len=2890	Tripartite motif protein 3 (RING finger protein 22).
AF036335	738	AAD05362	739	XM_051944		P23248	740	98	Rattus norvegicus NonO/p54nrb homolog mRNA, partial cds	AF036335 Rattus norvegicus NonO/p54nrb homolog mRNA, partial cds /cds=(0,506) /gb=AF036335 /gi=2874208 /ug=Rn.1926 /len=1020	
AF036335	741	AAD05362	742	XM_051944		P23248	743	96	Rattus norvegicus NonO/p54nrb homolog mRNA, partial cds	AF036335 Rattus norvegicus NonO/p54nrb homolog mRNA, partial cds /cds=(0,506) /gb=AF036335 /gi=2874208 /ug=Rn.1926 /len=1020	

Table 2.

AF036335	744	AAD05362	745	XM_051944	P23246	746	96	Rattus norvegicus NonO/p54nrb homolog mRNA, partial cds	AF036335 Rattus norvegicus NonO/p54nrb homolog mRNA, partial cds /cds=(0.508) /gb=AF036335 /gl=2674208 /ug=Rn.1926 /len=1020
AF036335	747	AAD05362	748	XM_051944	P23246	749	96	Rattus norvegicus NonO/p54nrb homolog mRNA, partial cds	AF036335 Rattus norvegicus NonO/p54nrb homolog mRNA, partial cds /cds=(0.508) /gb=AF036335 /gl=2674208 /ug=Rn.1926 /len=1020
AF036335	750	AAD05362	751	XM_051944	P23246	752	96	Rattus norvegicus NonO/p54nrb homolog mRNA, partial cds	AF036335 Rattus norvegicus NonO/p54nrb homolog mRNA, partial cds /cds=(0.508) /gb=AF036335 /gl=2674208 /ug=Rn.1926 /len=1020
AF036335	753	AAD05362	754	XM_051944	P23246	755	96	Rattus norvegicus NonO/p54nrb homolog mRNA, partial cds	AF036335 Rattus norvegicus NonO/p54nrb homolog mRNA, partial cds /cds=(0.508) /gb=AF036335 /gl=2674208 /ug=Rn.1926 /len=1020
AF036761	756	AAB88865	757	AF097514	O00767	759	92	stearoyl-CoA desaturase 2	AF036761 Rattus norvegicus stearoyl-CoA desaturase 2 mRNA, partial cds
AF036761	760	AAB88865	761	AF097514	O00767	763	92	stearoyl-CoA desaturase 2	AF036761 Rattus norvegicus stearoyl-CoA desaturase 2 mRNA, partial cds
AF036761	764	BAA92436	765	AF097514	O00767	767	83	Scd2 stearoyl-CoA desaturase 2	AF036761 Rattus norvegicus stearoyl-CoA desaturase 2 mRNA, partial cds
AF036761	768	AAB88865	769	AF097514	O00767	771	92	stearoyl-CoA desaturase 2	AF036761 Rattus norvegicus stearoyl-CoA desaturase 2 mRNA, partial cds

Table 2.

AF0367 61	772	AAB888 65	773	AF097514	774	O00767	775	92	stearyl-CoA desaturase 2		AF036761 Rattus norvegicus stearyl-CoA desaturase 2 mRNA, partial cds			
AF0367 61	776	BAA824 36	777	AF097514	778	O00767	779	83	Scd2 stearyl-CoA desaturase 2	AB032243	AF036761 Rattus norvegicus stearyl-CoA desaturase 2 mRNA, partial cds			
AF0370 72	780	P14141	781	BM71311 2	782	AAH048 97	783	92.92	Carbonic anhydrase III		AF037072 Rattus norvegicus carbonic anhydrase III (CA3) mRNA, complete cds /cds=(33,815) /gb=AF037072 /gi=2708635 /ug=Rn.22518 /len=1053		Cytoplasmic.	Carbonic anhydrase III (EC 4.2.1.1) (Carbonate dehydratase III) (CA-III).
AF0372 72	784	AAC40 055	785	AF168631	786	XP_007 832	787	84.08	WAP four- disulfide core domain protein (ps20)		AF037272 Rattus norvegicus WAP four- disulfide core domain protein (ps20) mRNA, complete cds /cds=(51,689) /gb=AF037272 /gi=2835295 /ug=Rn.3193 /len=1053			
AF0390 85	788	O54980	789	AJ002308	790	O43760	791	87	Synaptogyrin 2		AF039085 Rattus norvegicus cellugyrin mRNA, complete cds /cds=(153,857) /gb=AF039085 /gi=2773063 /ug=Rn.8682 /len=1108		Integral membrane protein.	Synaptogyrin 2 (Cellugyrin).
AF0395 83	792	AAC77 438	793	NM_0005 74	794	P08174	795	45	Decay- accelarating factor		AF039583 Rattus norvegicus decay accelerating factor GPI-form precursor (DAF) mRNA, complete cds			
AF0395 83	796	AAC77 438	797	NM_0005 74	798	P08174	799	45	Decay- accelarating factor		AF039583 Rattus norvegicus decay accelerating factor GPI-form precursor (DAF) mRNA, complete cds			
AF0395 84	800	AAC77 439	801	XM_05206 0		XP_052 060		47	Decay accelerating factor soluble- form precursor (DAF) mRNA, complete cds		AF039584 Rattus norvegicus decay accelerating factor soluble-form precursor (DAF) mRNA, complete cds			

Table 2.

AF0402 61	802	P53809	803	AK058120	804	Q9UJL6	805	87.8	Phosphatidylcholine transfer protein (Pctp)	AF040261 Rattus norvegicus phosphatidylcholine transfer protein (Pctp) mRNA, partial cds	Cytoplasmic.	Phosphatidylcholine transfer protein (PC-TP).
AF041106	808	AAB97075	807	AL050050	808	BAA86586	809	92.12	Tulip 1	AF041106 Rattus norvegicus tulip 1 mRNA, complete cds /cds=(1052,3295) /gb=AF041106 /gi=2792493 /ug=Rn.10887 /len=4258		
AF041107	810	P49816	811	AL050050	812	T08722		92.12	Tulip 1	AF041107 Rattus norvegicus tulip 2 mRNA, complete cds /cds=(266,2866) /gb=AF041107 /gi=2792495 /ug=Rn.10887 /len=3344		
AF041107	813	P49816	814	AL050050	815	T08722		92.12	Tulip 1	AF041107 Rattus norvegicus tulip 2 mRNA, complete cds /cds=(266,2866) /gb=AF041107 /gi=2792495 /ug=Rn.10887 /len=3344		
AF041107	816	P49816	817	AL050050	818	T08722		92.12	Tulip 1	AF041107 Rattus norvegicus tulip 2 mRNA, complete cds /cds=(266,2866) /gb=AF041107 /gi=2792495 /ug=Rn.10887 /len=3344		
AF041107	819	P49816	820	AL050050	821	T08722		92.12	Tulip 1	AF041107 Rattus norvegicus tulip 2 mRNA, complete cds /cds=(266,2866) /gb=AF041107 /gi=2792495 /ug=Rn.10887 /len=3344		
AF041373	822	AAB97078	823	NM_007166	824	NP_009097	825	87	Clathrin assembly protein short form (CALM) mRNA, complete cds /cds=(25,1818) /gb=AF041373 /gi=2792499 /ug=Rn.10888 /len=1921			
AF045464	826	P38918	827	NM_012067	828	O95154	829	78	afatoxin B1 aldehyde reductase; AFAR	AF045464 Rattus norvegicus afatoxin B1 aldehyde reductase (AFAR) mRNA, complete cds	Cytoplasmic.	Afatoxin B1 aldehyde reductase (EC 1.-.-.-) (AFB1-AR).
AF045564	830	Q9Z2L9	831	AB033009	832	Q9ULP0	833	90.17	Development-related protein	AF045564 Rattus norvegicus development-related protein mRNA, complete cds		NDRG4 protein (Brain development-related molecule 1).

Table 2.

AF045564	834	Q9Z2L9	835	AB033006	836	Q9ULP0	837	90.17	Development-related protein	AF045564 Rattus norvegicus development-related protein mRNA, complete cds	NDRG4 protein (Brain development-related molecule 1).
AF047707	838	AAD02464	839	D50840	840	Q16739	841	90.11	UDP-glucose:ceramide glycosyltransferase	AF047707 Rattus norvegicus UDP-glucose:ceramide glycosyltransferase mRNA, complete cds	
AF047707	842	AAD02464	843	D50840	844	Q16739	845	90.11	UDP-glucose:ceramide glycosyltransferase	AF047707 Rattus norvegicus UDP-glucose:ceramide glycosyltransferase mRNA, complete cds	
AF048687	846	AAC24515	847	AF069054	848	Q9UBX8	849	89	UDP-Gal:glucosylceramide beta-1,4-galactosyltransferase	AF048687 Rattus norvegicus UDP-Gal:glucosylceramide beta-1,4-galactosyltransferase mRNA, complete cds	
AF048828	850	Q9Z2L0	851	BI493778	852	MMHUP3	853	94.12	Voltage-dependent anion channel 1	AF048828 Rattus norvegicus voltage dependent anion channel (RVDAC1) mRNA, complete cds	OUTER MEMBRANE OF MITOCHONDRIA AND PLASMA MEMBRANE
											Voltage-dependent anion-selective channel protein 1 (VDAC-1) (VDAC1)(Outer mitochondrial membrane protein porin 1).

Table 2.

AF048828	854	Q9Z2L0	855	BI493778	856	MMHUP 3	857	94.12	Voltage- dependent anion channel 1	AF048828 Rattus norvegicus voltage dependent anion channel (RVDAC1) mRNA, complete cds	OUTER MEMBRANE OF MITOCHON DRIA AND PLASMA MEMBRANE	Voltage- dependent anion-selective channel protein 1 (VDAC-1) (VDAC1)(Outer mitochondrial membrane protein porin 1).
AF048828	858	Q9Z2L0	859	BI493778	860	MMHUP 3	861	94.12	Voltage- dependent anion channel 1	AF048828 Rattus norvegicus voltage dependent anion channel (RVDAC1) mRNA, complete cds	OUTER MEMBRANE OF MITOCHON DRIA AND PLASMA MEMBRANE	Voltage- dependent anion-selective channel protein 1 (VDAC-1) (VDAC1)(Outer mitochondrial membrane protein porin 1).
AF048828	862	Q9Z2L0	863	BI493778	864	MMHUP 3	865	94.12	Voltage- dependent anion channel 1	AF048828 Rattus norvegicus voltage dependent anion channel (RVDAC1) mRNA, complete cds	OUTER MEMBRANE OF MITOCHON DRIA AND PLASMA MEMBRANE	Voltage- dependent anion-selective channel protein 1 (VDAC-1) (VDAC1)(Outer mitochondrial membrane protein porin 1).

Table 2.

AF048828	866	Q9Z2L0	867	BI493778	868	MMHUP3	869	94.12	Voltage-dependent anion channel 1	AF048828 Rattus norvegicus voltage dependent anion channel (RVDAC1) mRNA, complete cds	OUTER MEMBRANE OF MITOCHONDRIA AND PLASMA MEMBRANE	Voltage-dependent anion-selective channel protein 1 (VDAC-1)(Outer mitochondrial membrane protein porin 1).
AF048828	870	Q9Z2L0	871	BI493778	872	MMHUP3	873	94.12	Voltage-dependent anion channel 1	AF048828 Rattus norvegicus voltage dependent anion channel (RVDAC1) mRNA, complete cds	OUTER MEMBRANE OF MITOCHONDRIA AND PLASMA MEMBRANE	Voltage-dependent anion-selective channel protein 1 (VDAC-1)(Outer mitochondrial membrane protein porin 1).
AF049344	874	AAC69708	875	AJ245539	876	AAF15313	877	87.65	N-acetylgalactosaminyltransferase T5 mRNA	AF049344 Rattus norvegicus UDP-GalNAc:polypeptide N-acetylgalactosaminyltransferase T5 mRNA, complete cds		
AF051425	878	Q70367	879	AB005999	880	O75829	881	85.25	Chondromodulin-1 (Chm-1)	AF051425 Rattus norvegicus chondromodulin-1 (Chm-1) mRNA, complete cds /cds=(126,1130) /gb=AF051425 /gi=2952535 /ug=Rn.9900 /len=1405	Cytoplasmic and secreted. Accumulated in the interterritorial matrix of cartilage.	Chondromodulin precursor (Chm-I) [Contains: Chondrosurfactant protein (CH-SP)].



Table 2.

AF0515	882	AAC27	883	BE933612	884	NP_000329	885	91.41	Solute carrier family 12, member 2	AF051551 Rattus norvegicus Na-K-Cl cotransporter (Nkcc1) mRNA, complete cds		
AF0515	886	AAC27	887	BE933612	888	NP_000329	889	91.41	Solute carrier family 12, member 2	AF051551 Rattus norvegicus Na-K-Cl cotransporter (Nkcc1) mRNA, complete cds		
AF0518	890	AAC06	891	NM_001154	892	P08758	893	92	Lipocortin V	AF051895 Rattus norvegicus lipocortin V mRNA, partial cds		
AF0520	894	Q9Z2K	895	NM_014019	896	NP_115540	897	89.47	Rattus norvegicus zinc finger protein Y1 (RLZF-Y) mRNA, complete cds	AF052042 Rattus norvegicus zinc finger protein Y1 (RLZF-Y) mRNA, complete cds	Nuclear	Zinc finger protein 94 (Zfp-94) (Zinc finger protein Y1) (RLZF-Y).
AF0546	898	AAC08	899	AK023333	900	AAH08799	901	90	cortactin isoform C	AF054618 Rattus norvegicus cortactin isoform C mRNA, complete cds /cds=(0,1415) /gb=AF054618 /gi=2986043 /ug=Rn.4084 /len=1416		
AF0552	902	AAC12	903	XM_043113		XP_043113		90	Signal transducer and activator of transcription 6 (stat6)	AF055292mRNA Rattus norvegicus signal transducer and activator of transcription 6 (stat6) gene, partial cds		
AF0587	904	O70453	905	D21243	906	P30519	907	93.04	Rattus norvegicus heme oxygenase-3 (HO-3) mRNA, complete cds	AF058787 Rattus norvegicus heme oxygenase-3 (HO-3) mRNA, complete cds /cds=(1051,1933) /gb=AF058787 /gi=3063688 /ug=Rn.14538 /len=2225	Microsomal	Heme oxygenase 3 (EC 1.14.99.3) (HO-3).

Table 2.

AF059030	908	AAC40	909	AF150882	910	NP_000326	911	92.31	Sodium channel, voltage-gated, type XI, alpha polypeptide (SNS2)	AF059030 Rattus norvegicus voltage-gated Na channel alpha subunit NaV mRNA, complete cds		
AF061242	912	Q8R1B1	913	AU005112	914	Q9Y5J6	915	98.34	Fracture callus 1	AF061242 Rattus norvegicus fracture callus 1 (FxC1) mRNA, complete cds	Mitochondrial inner membrane	Mitochondrial import inner membrane translocase subunit TIM9 B(Fructose callus protein 1) (FxC1).
AF061268	916	Q9QX01	917	Z73903	918	P48995	919	89.57	Trp1 beta variant mRNA	AF061268 Rattus norvegicus trp1 beta variant mRNA, complete cds	Integral membrane protein.	Short transient receptor potential channel 1 (TRP-1 protein)(Trp1).
AF061443	920	Q9Z2H4	921	XM_006548	922	XP_006549	923	82	G protein-coupled receptor LGR4	AF061443 Rattus norvegicus G protein-coupled receptor LGR4 (LGR4) mRNA, complete cds	Integral membrane protein.	Leucine-rich repeat-containing G protein-coupled receptor 4 precursor.

Table 2.

AF061726	924	P16259	925	BC003169	926	P20807	927	93.52	Calpain R188	AF061726 Rattus norvegicus muscle type calpain p94 mRNA, complete cds /cds=(66,2357) /gb=AF061726 /gi=3126956 /ug=Rn.9726 /len=2371	Cytoplasmic.	"Calpain 3 large subunit (EC 3.4.22.17) (Calpain L3) (Calpain p94, large [catalytic] subunit) (Calcium-activated neutral proteinase 3)(CANP 3) (Muscle-specific calcium-activated neutral protease 3 large"
AF061947	928	O88480	929	AB002328	930	Q9Y6J0	931	90.11	Caln mRNA	AF061947 Rattus norvegicus caln mRNA, complete cds	Cytoplasmic.	Calcineurin-binding protein Cabin 1 (Calcineurin inhibitor) (CAIN).
AF061947	932	O88480	933	AB002328	934	Q9Y6J0	935	90.11	Caln mRNA	AF061947 Rattus norvegicus caln mRNA, complete cds	Cytoplasmic.	Calcineurin-binding protein Cabin 1 (Calcineurin inhibitor) (CAIN).
AF062594	936	200810 9A	937	A1678881	938	S40510		95.08	Nucleosome assembly protein 1-like 1	AF062594 Rattus norvegicus nucleosome assembly protein mRNA, complete cds		
AF062594	939	200810 9A	940	A1678881	941	S40510		95.08	Nucleosome assembly protein 1-like 1	AF062594 Rattus norvegicus nucleosome assembly protein mRNA, complete cds		

Table 2.

AF062594	942	200810 9A	943	A1678881	944	S40510	96.08	Nucleosome assembly protein 1-like 1	AF062594 Rattus norvegicus nucleosome assembly protein mRNA, complete cds		
AF062594	945	200810 9A	946	A1678881	947	S40510	98.08	Nucleosome assembly protein 1-like 1	AF062594 Rattus norvegicus nucleosome assembly protein mRNA, complete cds		
AF062594	948	200810 9A	949	A1678881	950	S40510	96.08	Nucleosome assembly protein 1-like 1	AF062594 Rattus norvegicus nucleosome assembly protein mRNA, complete cds		
AF062594	951	200810 9A	952	A1678881	953	S40510	96.08	Nucleosome assembly protein 1-like 1	AF062594 Rattus norvegicus nucleosome assembly protein mRNA, complete cds		
AF062740	954	O88483	955	A1024308	956	NP_060 914	93.18	pyruvate dehydrogenase e phosphatase isoenzyme 1	AF062740 Rattus norvegicus pyruvate dehydrogenase phosphatase isoenzyme 1 mRNA, complete cds	Mitochondrial matrix.	"Pyruvate dehydrogenase [Lipoamide]- phosphatase 1, mitochondrialpr ecursor (EC 3.1.3.43) (PDP 1) (Pyruvate dehydrogenase phosphatase, cat alytic subunit 1) (PDPC 1)."

TABLE 4.

AF062740	958	O88483	959	AI024308	960	NP_060914	961	93.18	pyruvate dehydrogenase phosphatase isoenzyme 1	AF062740 Rattus norvegicus pyruvate dehydrogenase phosphatase isoenzyme 1 mRNA, complete cds	Mitochondrial matrix	[Pyruvate dehydrogenase [Lipoamide]-phosphatase 1, mitochondrial precursor (EC 3.1.3.43) (PDP 1) (Pyruvate dehydrogenase phosphatase, catalytic subunit 1) (PDPC 1)."
AF062741	962	O88484	963	AB037769	964	Q9P2J9	965	84.84	Rattus norvegicus pyruvate dehydrogenase phosphatase isoenzyme 2 mRNA, complete cds	AF062741 Rattus norvegicus pyruvate dehydrogenase phosphatase isoenzyme 2 mRNA, complete cds	Mitochondrial matrix	[Pyruvate dehydrogenase [Lipoamide]-phosphatase 2, mitochondrial precursor (EC 3.1.3.43) (PDP 2) (Pyruvate dehydrogenase phosphatase, catalytic subunit 2) (PDPC 2)."
AF063102	966	T14324	967	AW23819	968	BAA34506	969	99.28	Alpha-latrotoxin receptor, calcium-independent	AF063102 Rattus norvegicus calcium-independent alpha-latrotoxin receptor homolog 2 (CIRL-2) mRNA, complete cds		
AF063102	970	T14324	971	AW23819	972	BAA34506	973	99.28	Alpha-latrotoxin receptor, calcium-independent	AF063102 Rattus norvegicus calcium-independent alpha-latrotoxin receptor homolog 2 (CIRL-2) mRNA, complete cds		

Table 2.

AF063102	974	T14324	975	AW23819	976	BAA34506	977	99.28	Alpha-latrotoxin receptor, calcium-independent	AF063102 Rattus norvegicus calcium-independent alpha-latrotoxin receptor homolog 2 (CIRL-2) mRNA, complete cds
AF063102	978	T14324	979	AW23819	980	BAA34506	981	99.28	Alpha-latrotoxin receptor, calcium-independent	AF063102 Rattus norvegicus calcium-independent alpha-latrotoxin receptor homolog 2 (CIRL-2) mRNA, complete cds
AF063103	982	AAC77816	983	AF307080	984	XP_034091	985	92.98	calcium-independent alpha-latrotoxin receptor	AF063103 Rattus norvegicus calcium-independent alpha-latrotoxin receptor homolog 3 (CIRL-3) mRNA, complete cds
AF063103	986	AAC77816	987	AF307080	988	AAC77816	989	92.98	calcium-independent alpha-latrotoxin receptor	AF063103 Rattus norvegicus calcium-independent alpha-latrotoxin receptor homolog 3 (CIRL-3) mRNA, complete cds
AF063447	990	AAC16391	991	BC001009	992	AAH01009	993	93	nuclear RNA helicase	AF063447 Rattus norvegicus nuclear RNA helicase mRNA, complete cds /cds=(89,1382) /gb=AF063447 /gi=3132828 /ug=Rn.14550 /len=1511
AF064541	994	P48974	995	L37112	996	P47901	997	86.98	Vasopressin V1b receptor variant	AF064541 Rattus norvegicus vasopressin V1b receptor variant mRNA, complete cds /cds=(18,389) /gb=AF064541 /gi=3142691 /ug=Rn.10096 /len=623
AF064868	998	AAC63267	999	AL390162	1000	NP_065887	1001	90.07	Brain-enriched guanylate kinase-associated protein 1	AF064868 Rattus norvegicus brain-enriched guanylate kinase-associated protein 1 mRNA, complete cds
										Integral membrane protein.
										Vasopressin V1b receptor (V1bR) (AVPR V1b) (Vasopressin V3 receptor)(AVPR V3) (Antidiuretic hormone receptor 1b).

Table 2.

AF0653 87	1002	O88496	1003	M81592	1004	P38435	1005	88.42	Gamma-glutamyl carboxylase	AF065387 Rattus norvegicus vitamin K-dependent gamma-glutamyl carboxylase mRNA, complete cds	Vitamin K-dependent gamma-carboxylase (EC 6.4.2.2) (Gamma-glutamylcarboxylase).
AF0653 87	1008	O88496	1007	M81592	1008	P38435	1009	88.42	Gamma-glutamyl carboxylase	AF065387 Rattus norvegicus vitamin K-dependent gamma-glutamyl carboxylase mRNA, complete cds	Vitamin K-dependent gamma-carboxylase (EC 6.4.2.2) (Gamma-glutamylcarboxylase).
AF0653 87	1010	O88496	1011	M81592	1012	P38435	1013	88.42	Gamma-glutamyl carboxylase	AF065387 Rattus norvegicus vitamin K-dependent gamma-glutamyl carboxylase mRNA, complete cds	Vitamin K-dependent gamma-carboxylase (EC 6.4.2.2) (Gamma-glutamylcarboxylase).
AF0653 87	1014	O88496	1015	M81592	1016	P38435	1017	88.42	Gamma-glutamyl carboxylase	AF065387 Rattus norvegicus vitamin K-dependent gamma-glutamyl carboxylase mRNA, complete cds	Vitamin K-dependent gamma-carboxylase (EC 6.4.2.2) (Gamma-glutamylcarboxylase).
AF0653 87	1018	O88496	1019	M81592	1020	P38435	1021	88.42	Gamma-glutamyl carboxylase	AF065387 Rattus norvegicus vitamin K-dependent gamma-glutamyl carboxylase mRNA, complete cds	Vitamin K-dependent gamma-carboxylase (EC 6.4.2.2) (Gamma-glutamylcarboxylase).

Table 2.

AF0653 87	1022	O88498	1023	IM81592	1024	P38435	1025	88.42	Gamma-glutamyl carboxylase		AF065387 Rattus norvegicus vitamin K-dependent gamma-glutamyl carboxylase mRNA, complete cds	Vitamin K-dependent gamma-glutamyl carboxylase (EC 6.4.2.2) (Gamma-glutamyl carboxylase).
AF0654 38	1026	AAC17 177	1027	NM_0055 67	1028	NP_005 558	1029	68	Rattus norvegicus mama mRNA, complete cds	C07012	AF065438 Rattus norvegicus mama mRNA, complete cds /cds=(155,1878) /gb=AF065438 /gi=3152927 /ug=Rn.3251 /len=2151	
AF0654 38	1030	AAC17 177	1031	NM_0055 67	1032	NP_005 558	1033	68	Rattus norvegicus mama mRNA, complete cds	C07012	AF065438 Rattus norvegicus mama mRNA, complete cds /cds=(155,1878) /gb=AF065438 /gi=3152927 /ug=Rn.3251 /len=2151	
AF0677 90	1034	O70489	1035	NM_0051 55	1036	Q9UMR 5	1037	80	Truncated palmitoyl-protein thioesterase (PPT-2)		AF067790 Rattus norvegicus truncated palmitoyl-protein thioesterase (PPT-2) mRNA, complete cds /cds=(113,589) /gb=AF067790 /gi=3201901 /ug=Rn.8895 /len=1024	Palmitoyl-protein thioesterase 2 precursor (EC 3.1.2.22) (Palmitoyl-protein thioesterase 2) (PPT-2).
AF0688 60	1038	O89117	1039	NM_0052 18	1040	Q09753	1041	50	Beta defensin-1		AF068860 Rattus norvegicus beta defensin-1 mRNA, complete cds	Beta-defensin 1 precursor (BD-1) (RBD-1).
AF0695 25	1042	P97570	1043	AL136710	1044	A55575	1045	93.5	Rattus norvegicus 190 kDa ankyrin isoform mRNA, complete cds		AF069525 Rattus norvegicus 190 kDa ankyrin isoform mRNA, complete cds /cds=(84,5372) /gb=AF069525 /gi=3202045 /ug=Rn.236 /len=6184	Secreted.



Table 2.

AF069775	1046	AAC21 580	1047	AF002246	1048	AAB609 37	1049	90	Rattus norvegicus L1-like cell adhesion molecule (CALL) mRNA	AF069775 Rattus norvegicus L1-like cell adhesion molecule (CALL) mRNA, partial cds		
AF071225	1050	AAC25 590	1051	NIM_0009 42	1052	P23284	1053	87	Cyclophilin B	AF071225 Rattus norvegicus cyclophilin B mRNA, complete cds		
AF071495	1054	AAC23 892	1055	NIM_0055 05	1056	NP_005 496	1057	73	pneumocyte CD36-related class B scavenger receptor (SRB1R)	AF071495 Rattus norvegicus type II pneumocyte CD36-related class B scavenger receptor (SRB1R) mRNA, complete cds		
AF072411	1058	Q07969	1059	BC008408	1060	P16671	1061	84.48	fatty acid translocase/C D38 mRNA	AF072411 Rattus norvegicus fatty acid translocase/CD36 mRNA, complete cds	Integral membrane protein.	Platelet glycoprotein IV (GPIV) (GPIIIB) (CD36 antigen) (PAS IV) (PAS-4 protein) (Fatty acid transport protein) (Fatty acid translocase)(Adipocyte membrane protein).

Table 2.

AF072411	1062	Q07969	1063	BC008408	1064	P16671	1065	84.46	fatty acid translocase/C D36 mRNA	AF072411 Rattus norvegicus fatty acid translocase/CDS36 mRNA, complete cds	Integral membrane protein.	Platelet glycoprotein IV (GPIV) (GPIIB) (CD36 antigen) (PAS IV) (PAS- 4 protein) (Fatty acid transport protein) (Fatty acid translocase)(Adi- pocyte membrane protein).
AF072439	1066	O88553	1067	AK000351	1068	Q9Y6Q3	1069	86.79	Rattus norvegicus zinc-finger protein-37 mRNA, complete cds	AF072439 Rattus norvegicus zinc-finger protein-37 mRNA, complete cds	Nuclear	Zinc finger protein 37 (Zfp- 37).
AF072439	1070	O88553	1071	AK000351	1072	Q9Y6Q3	1073	86.79	Rattus norvegicus zinc-finger protein-37 mRNA, complete cds	AF072439 Rattus norvegicus zinc-finger protein-37 mRNA, complete cds	Nuclear	Zinc finger protein 37 (Zfp- 37).
AF074609	1074	AAC33 332	1075	No human homolog found.		No Human Protein Found.			MHC class I antigen (RT1.EC3) gene	AF074609mRNA Rattus norvegicus MHC class I antigen (RT1.EC3) gene, complete cds		
AF076183	1076	AAC31 815	1077	AL137271	1078	XP_008 499		90.23	Cytosolic sorting protein PACS-1a	AF076183 Rattus norvegicus cytosolic sorting protein PACS-1a (PACS-1) mRNA, complete cds		
AF076183	1079	AAC31 815	1080	AL137271	1081	XP_008 499		90.23	Cytosolic sorting protein PACS-1a	AF076183 Rattus norvegicus cytosolic sorting protein PACS-1a (PACS-1) mRNA, complete cds		

Table 2.

AF077354	1082	Q63617	1083	BC002526	1084	P34932	1085	93.17	Rattus norvegicus ischemia responsive 94 kDa protein (lrp94) mRNA, complete cds	AF077354 Rattus norvegicus ischemia responsive 94 kDa protein (lrp94) mRNA, complete cds
AF077354	1086	Q63617	1087	BC002526	1088	P34932	1089	93.17	Rattus norvegicus ischemia responsive 94 kDa protein (lrp94) mRNA, complete cds	AF077354 Rattus norvegicus ischemia responsive 94 kDa protein (lrp94) mRNA, complete cds
AF077354	1090	Q63617	1091	BC002526	1092	P34932	1093	93.17	Rattus norvegicus ischemia responsive 94 kDa protein (lrp94) mRNA, complete cds	AF077354 Rattus norvegicus ischemia responsive 94 kDa protein (lrp94) mRNA, complete cds
AF077354	1094	Q63617	1095	BC002526	1096	P34932	1097	93.17	Rattus norvegicus ischemia responsive 94 kDa protein (lrp94) mRNA, complete cds	AF077354 Rattus norvegicus ischemia responsive 94 kDa protein (lrp94) mRNA, complete cds

Table 2.

AF078779	1098	AAC68 885	1099	AW29500 7	1100	CAC406 96	1101	94.17	Rattus norvegicus putative four repeat ion channel mRNA, complete cds	AF078779 Rattus norvegicus putative four repeat ion channel mRNA, complete cds
AF078779	1102	AAC68 885	1103	AW29500 7	1104	CAC406 96	1105	94.17	Rattus norvegicus putative four repeat ion channel mRNA, complete cds	AF078779 Rattus norvegicus putative four repeat ion channel mRNA, complete cds
AF078779	1106	AAC68 885	1107	AW29500 7	1108	CAC406 96	1109	94.17	Rattus norvegicus putative four repeat ion channel mRNA, complete cds	AF078779 Rattus norvegicus putative four repeat ion channel mRNA, complete cds
AF078779	1110	AAC68 885	1111	AW29500 7	1112	CAC406 96	1113	94.17	Rattus norvegicus putative four repeat ion channel mRNA, complete cds	AF078779 Rattus norvegicus putative four repeat ion channel mRNA, complete cds
AF078779	1114	AAC68 885	1115	AW29500 7	1116	CAC406 96	1117	94.17	Rattus norvegicus putative four repeat ion channel mRNA, complete cds	AF078779 Rattus norvegicus putative four repeat ion channel mRNA, complete cds

Table 2.

AF078779	1118	AAC68 885	1119	AW29500 7	1120	CAC406 96	1121	84.17	Rattus norvegicus putative four repeat ion channel mRNA, complete cds	AF078779 Rattus norvegicus putative four repeat ion channel mRNA, complete cds
AF079873	1122	AAC29 484	1123	XM_04563 8		XP_045 638		100	splicing factor 1	AF079873 Rattus norvegicus splicing factor 1 homolog mRNA, partial cds
AF080468	1124	AAC79 839	1125	NIM_0014 67	1126	O43826	1127	82	Rattus norvegicus putative glycogen storage disease type 1b protein mRNA, complete cds	AF080468 Rattus norvegicus putative glycogen storage disease type 1b protein mRNA, complete cds
AF080468	1128	AAC79 839	1129	NIM_0014 67	1130	O43826	1131	82	Rattus norvegicus putative glycogen storage disease type 1b protein mRNA, complete cds	AF080468 Rattus norvegicus putative glycogen storage disease type 1b protein mRNA, complete cds
AF080468	1132	AAC79 839	1133	NIM_0014 67	1134	O43826	1135	93	Rattus norvegicus putative glycogen storage disease type 1b protein // glucose-6- phosphatase	AF080468 Rattus norvegicus putative glycogen storage disease type 1b protein mRNA, complete cds

Table 2.

AF080468	1136	AAC78 839	1137	NM_0014 67	1138	O43826	1139	82	Rattus norvegicus putative glycogen storage disease type 1b protein mRNA, complete cds	AF080468 Rattus norvegicus putative glycogen storage disease type 1b protein mRNA, complete cds
AF080468	1140	AAC78 839	1141	NM_0014 67	1142	O43826	1143	82	Rattus norvegicus putative glycogen storage disease type 1b protein mRNA, complete cds	AF080468 Rattus norvegicus putative glycogen storage disease type 1b protein mRNA, complete cds
AF080468	1144	AAC78 839	1145	NM_0014 67	1146	O43826	1147	93	Rattus norvegicus putative glycogen storage disease type 1b protein // glucose-6- phosphatase	AF080468 Rattus norvegicus putative glycogen storage disease type 1b protein mRNA, complete cds
AF081144	1148	AAC62 650	1149	AL157803	1150	CAC197 96	1151	53	CL1AA mRNA	AF081144 Rattus norvegicus CL1AA mRNA, complete cds
AF081144	1152	AAC62 650	1153	No human homolog found.		No Human Protein Found.		42	CL1AA mRNA	AF081144 Rattus norvegicus CL1AA mRNA, complete cds

Table 2.

AF081186	1154	AAC79700	1155	AF131853	1156	AAC79899	1157	91,51	calcium and DAG-regulated guanine nucleotide exchange factor II	AF081196 Rattus norvegicus calcium and DAG-regulated guanine nucleotide exchange factor II mRNA, complete cds		
AF081385	1158	P35560	1159	NM_000220	1160	P48048	1161	88,17	Potassium inwardly-rectifying channel, subfamily J	AF081365 Rattus norvegicus ATP-regulated K <sup>+</sup> channel ROMK1.1 isoform mRNA, complete cds	Integral membrane protein.	"ATP-sensitive inward rectifier potassium channel 1 (Potassium channel, inwardly rectifying, subfamily J, member 1) (ATP-regulated potassium channel ROMK) (KAB1) (Kir1.1)."
AF083330	1162	O55165	1163	XM_039750		XP_038750		82	kinesin-like protein KIF3C	AF083330 Rattus norvegicus kinesin-like protein KIF3C (KIF3C) mRNA, complete cds		Kinesin-like protein KIF3C.
AF084186	1164	P16086	1165	AL110273	1166	Q13813	1167	95	Noerthroid alpha-spectrin <sup>2</sup>	AF084188 Rattus norvegicus alpha-fodrin (A2A) mRNA, complete cds		"Spectrin alpha chain, brain (Spectrin, non-erythroid alpha chain)(Alpha-II spectrin) (Fodrin alpha chain)."

Table 2.

AF084205	1168	AAC71014	1169	AB037782	1170	XP_030845	1171	93.48	Rattus norvegicus serine/threonine protein kinase TAO1 mRNA	AF084205 Rattus norvegicus serine/threonine protein kinase TAO1 mRNA, complete cds		
AF085693	1172	Q8Z272	1173	BG984848	1174	NP_054749	1175	94.93	G protein-coupled receptor kinase-associated ADP ribosylation factor GTPase-activating protein	AF085693 Rattus norvegicus G protein-coupled receptor kinase-associated ADP ribosylation factor GTPase-activating protein (GIT1) mRNA, complete cds	ARF GTPase-activating protein GIT1 (G protein-coupled receptor kinase-interactor 1).	
AF085693	1176	Q8Z272	1177	BG984848	1178	NP_054749	1179	94.93	G protein-coupled receptor kinase-associated ADP ribosylation factor GTPase-activating protein	AF085693 Rattus norvegicus G protein-coupled receptor kinase-associated ADP ribosylation factor GTPase-activating protein (GIT1) mRNA, complete cds	ARF GTPase-activating protein GIT1 (G protein-coupled receptor kinase-interactor 1).	
AF086624	1180	AAC68900	1181	AL526982	1182	AAA60089	1183	96.05	serine threonine kinase	AF086624 Rattus norvegicus serine threonine kinase (pim-3) mRNA, complete cds		
AF086758	1184	AAD09008	1185	NM_001046	1186	P55011	1187	80	Na-K-2Cl cotransporter (Nkcc1)	AF086758 Rattus norvegicus Na-K-2Cl cotransporter (Nkcc1) mRNA, partial cds		
AF087431	1188	AAC36477	1189	XM_035229	1190	XP_035229	1191	78	glycoprotein processing glucosidase I	AF087431 Rattus rattus glycoprotein processing glucosidase I mRNA, complete cds		
AF087431	1182	AAC36477	1193	XM_035229	1194	XP_035229	1195	78	glycoprotein processing glucosidase I	AF087431 Rattus rattus glycoprotein processing glucosidase I mRNA, complete cds		



Table 2.

AF0876 97	1186	AAC78 485	1197	U37707	1198	Q13368	1199	87.34	dig 3	AF087697 Rattus norvegicus dig 3 mRNA, partial cds
AF0878 44	1200	AAC35 372	1201	X06882	1202	CAA289 99	1203	57	Rattus norvegicus monocyte differentiation antigen CD14 gene promoter region and partial cds	AF087844mRNA Rattus norvegicus monocyte differentiation antigen CD14 gene, promoter region and partial cds
AF0901 34	1204	AAC78 073	1205	AF087693	1206	NP_004 655	1207	92.13	Rattus norvegicus lin-7-Ba mRNA, complete cds	AF090134 Rattus norvegicus lin-7-Ba mRNA, complete cds
AF0912 47	1208	O88944	1209	NM_0045 19	1210	O43525	1211	92.96	Rattus norvegicus potassium channel (KCNQ3)	AF091247 Rattus norvegicus potassium channel (KCNQ3) mRNA, complete cds
AF0915 61	1212	AAC64 584	1213	AF321237	1214	AAG452 06	1215	33	hP3 olfactory receptor	AF091561 Rattus norvegicus isolate AIV-LY1 olfactory receptor mRNA, partial cds
AF0915 63	1218	AAC64 586	1217	AF321237	1218	AAG452 05	1219	49	Rattus norvegicus isolate QIL-LD1 olfactory receptor	AF091563 Rattus norvegicus isolate QIL-LD1 olfactory receptor mRNA, partial cds
AF0915 63	1220	AAC64 586	1221	AF321237	1222	AAG452 05	1223	49	Isolate QIL-LD1 olfactory receptor mRNA	AF091563 Rattus norvegicus isolate QIL-LD1 olfactory receptor mRNA, partial cds

Voltage-gated potassium channel protein KQT-like 3.

Integral membrane protein.

Table 2.

AF0915169	1224	AAC84591	1225	AF087916	1226	AAF37309	1227	70	Rattus norvegicus isolate HGL-SP3 olfactory receptor	AF091569 Rattus norvegicus isolate HGL-SP3 olfactory receptor mRNA, partial cds
AF0915170	1228	CAA88842	1229	AF087916	1230	P30953	1231	69	Rattus norvegicus isolate HGL-SP2 olfactory receptor pseudogene, partial sequence	AF091570 Rattus norvegicus isolate HGL-SP2 olfactory receptor pseudogene, partial sequence
AF0915178	1232	AAC84598	1233	NIM_006637	1234	NP_006628	1235	47	Rattus norvegicus isolate EVA-TN1 olfactory receptor mRNA, partial cds	AF091578 Rattus norvegicus isolate EVA-TN1 olfactory receptor mRNA, partial cds
AF0918134	1236	AAC81595	1237	NIM_008178	1238	P46459	1239	100	N-ethylmaleimide sensitive factor NSF	AF091834 Rattus norvegicus N-ethylmaleimide sensitive factor NSF mRNA, partial cds
AF0918134	1240	AAC81595	1241	NIM_008178	1242	P46459	1243	100	N-ethylmaleimide sensitive factor NSF	AF091834 Rattus norvegicus N-ethylmaleimide sensitive factor NSF mRNA, partial cds

Table 2.

AF092450	1244	Q8R237	1245	AF007134	1246	Q8UCF2	1247	90.85	Rattus norvegicus JIP-1b mRNA, complete cds	AF092450 Rattus norvegicus JIP-1 related protein (JRP) mRNA, complete cds	Cytoplasmic Accumulates in cell surface projections. Under certain stress conditions, translocates to the perinuclear region of neurons. In insulin-secreting cells, de-	C-Jun-amino-terminal kinase interacting protein 1 (JNK-IP-1) (JIP-1) (JNK MAP kinase scaffold protein 1) (selectin-1)(IB-1) (Mitogen-activated protein kinase 8-interacting protein 1
AF092523	1248	Q88884	1249	BC000729	1250	Q82687	1251	44	A-kinase anchor protein 84 mRNA	AF092523 Rattus norvegicus A-kinase anchor protein 84 mRNA, complete cds	Mitochondrial outer membrane.	"A kinase anchor protein 1, mitochondrial precursor (Protein Kinase Anchoring protein 1) (PRKA1) (A-kinase anchor protein 121 kDa) (AKAP121) (Dual specificity A-Kinase anchoring protein 1) (D-AKAP-1)"
AF093268	1252	AAC71032	1253	Y17829	1254	NP_004263	1255	84.46	Homer-1c	AF093268 Rattus norvegicus homer-1c mRNA, complete cds		

Table 2.

AF095576	1256	AAC64 408	1257	AB000520	1258	BAA225 14	1259	85.26	APS protein	AF095576 Rattus norvegicus APS protein mRNA, complete cds		
AF085741	1260	AAC84 190	1261	AK000612	1262	XP_054 663	1263	84.37	MG87	AF085741 Rattus norvegicus MG87 mRNA, complete cds		
AF085741	1264	AAC84 190	1265	AK000612	1266	XP_054 663	1267	84.37	MG87	AF085741 Rattus norvegicus MG87 mRNA, complete cds		
AF095927	1268	AAC97 497	1269	AK055417	1270	NP_110 395	1271	90.09	Protein phosphatase 2C	AF095927 Rattus norvegicus protein phosphatase 2C mRNA, complete cds		
AF095927	1272	AAC97 497	1273	AK055417	1274	NP_110 395	1275	90.09	Protein phosphatase 2C	AF095927 Rattus norvegicus protein phosphatase 2C mRNA, complete cds		
AF095927	1276	AAC97 497	1277	AK055417	1278	NP_110 395	1279	90.09	Protein phosphatase 2C	AF095927 Rattus norvegicus protein phosphatase 2C mRNA, complete cds		
AF095927	1280	AAC97 497	1281	AK055417	1282	NP_110 395	1283	90.09	Protein phosphatase 2C	AF095927 Rattus norvegicus protein phosphatase 2C mRNA, complete cds		
AF096835	1284	Q8Z1Z1	1285	AF110146	1286	Q9NZJ5	1287	92.98	Rattus norvegicus pancreatic eukaryotic initiation factor 2 alpha-subunit kinase (PEK) mRNA	AF096835 Rattus norvegicus pancreatic eukaryotic initiation factor 2 alpha-subunit kinase (PEK) mRNA, complete cds	Type I membrane protein. Endoplasmic reticulum.	Eukaryotic translation initiation factor 2 alpha kinase 3 precursor(EC 2.7.1.-) (PRKR-like endoplasmic reticulum kinase) (Pancrat/celF2-alpha kinase).

Table 2.

AF096835	1288	Q8Z1Y1	1289	AF110146	1290	Q8NZJ5	1291	92.98	Rattus norvegicus pancreatic eukaryotic initiation factor 2 alpha-subunit kinase (PEK) mRNA	AF096835 Rattus norvegicus pancreatic eukaryotic initiation factor 2 alpha-subunit kinase (PEK) mRNA, complete cds	Type I membrane protein. Endoplasmic reticulum.	Eukaryotic translation initiation factor 2 alpha kinase 3 precursor (EC 2.7.1.-) (PRKR-like endoplasmic reticulum kinase) (Pancreatic IF2-alpha kinase).
AF097593	1282	Q8Z1Y3	1283	NM_001792	1294	P19022	1295	94.07	Cadherin 2, type 1, N-cadherin (neuronal)	AF097593 Rattus norvegicus testicular N-cadherin mRNA, complete cds	Type I membrane protein.	Neural-cadherin precursor (N-cadherin) (Cadherin-2).
AF097593	1286	Q8Z1Y3	1287	NM_001792	1298	P19022	1299	94.07	Cadherin 2, type 1, N-cadherin (neuronal)	AF097593 Rattus norvegicus testicular N-cadherin mRNA, complete cds	Type I membrane protein.	Neural-cadherin precursor (N-cadherin) (Cadherin-2).
AF097593	1300	Q8Z1Y3	1301	NM_001792	1302	P19022	1303	94.07	Cadherin 2, type 1, N-cadherin (neuronal)	AF097593 Rattus norvegicus testicular N-cadherin mRNA, complete cds	Type I membrane protein.	Neural-cadherin precursor (N-cadherin) (Cadherin-2).
AF097593	1304	Q8Z1Y3	1305	NM_001792	1308	P19022	1307	94.07	Cadherin 2, type 1, N-cadherin (neuronal)	AF097593 Rattus norvegicus testicular N-cadherin mRNA, complete cds	Type I membrane protein.	Neural-cadherin precursor (N-cadherin) (Cadherin-2).

Table Z.

AF0990 93	1308	Q99462	1309	NM_0033 42	1310	Q99462	1311	95.71	Ubiquitin- conjugating enzyme UBC7	AF099093 Rattus norvegicus ubiquitin- conjugating enzyme UBC7 mRNA, complete cds	Ubiquitin- conjugating enzyme E2 G1 (EC 6.3.2.19) (Ubiquitin- proteinligase G1) (Ubiquitin carrier protein G1) (E217K) (UBC7).
AF0990 93	1312	Q99462	1313	NM_0033 42	1314	Q99462	1315	85.71	Ubiquitin- conjugating enzyme UBC7	AF099093 Rattus norvegicus ubiquitin- conjugating enzyme UBC7 mRNA, complete cds	Ubiquitin- conjugating enzyme E2 G1 (EC 6.3.2.19) (Ubiquitin- proteinligase G1) (Ubiquitin carrier protein G1) (E217K) (UBC7).
AF0990 93	1316	Q99462	1317	NM_0033 42	1318	Q99462	1319	95.71	Ubiquitin- conjugating enzyme UBC7	AF099093 Rattus norvegicus ubiquitin- conjugating enzyme UBC7 mRNA, complete cds	Ubiquitin- conjugating enzyme E2 G1 (EC 6.3.2.19) (Ubiquitin- proteinligase G1) (Ubiquitin carrier protein G1) (E217K) (UBC7).
AF0990 93	1320	Q99462	1321	NM_0033 42	1322	Q99462	1323	85.71	Ubiquitin- conjugating enzyme UBC7	AF099093 Rattus norvegicus ubiquitin- conjugating enzyme UBC7 mRNA, complete cds	Ubiquitin- conjugating enzyme E2 G1 (EC 6.3.2.19) (Ubiquitin- proteinligase G1) (Ubiquitin carrier protein G1) (E217K) (UBC7).

Table 2.

AF102552	1324	AAC78	1325	NIM_0211	1326	P05092	1327	96	Rattus norvegicus 270 kDa ankyrin G isoform mRNA, partial cds	AF102552 Rattus norvegicus 270 kDa ankyrin G isoform mRNA, partial cds	
AF106563	1328	AAC83	1328	AF070598	1330	Q8NP58	1331	89.06	Rattus norvegicus mRNA for ABC transporter GABA-B R2 receptor	AF106563 Rattus norvegicus P-glycoprotein-like ATP-binding cassette transporter mRNA, complete cds	
AF109405	1332	O88871	1333	AB015334	1334	O75899	1335	93.83		AF109405 Rattus norvegicus GABA-B receptor 2 mRNA, complete cds	INTEGRAL MEMBRANE PROTEIN. MOREOVER COEXPRESSION OF GABA-B-R1 AND GABA-B-R2 APPEARS TO BE A PREREQUISITE FOR MATURATION AND TRANSPORT OF GABA-B-R1 TO THE PLASMA MEMBRANE.
AJ000556	1336	CAA04	1337	XM_001387		XP_001387		89	Janus protein tyrosine kinase 1	AJ000556 Rattus norvegicus mRNA for Janus protein tyrosine kinase 1, JAK1	"Gamma-aminobutyric acid type B receptor, subunit 2 precursor (GABA-B-R2) (GABA-B-R2) (Gbb2) (GABABR2)."
AJ001028	1338	O55170	1339	BC007595	1340	P56693	1341	91.28	Sox10 protein	AJ001028 Rattus norvegicus mRNA for Sox10 protein /cds=(582,1982) /gb=AJ001028 /gi=2695880 /ug=Rn.10883 /len=3030	Nuclear. Transcription factor SOX-10.

Table 2.

AJ0012 80	1342	CAA04 650	1343	XM_00974 3	XP_009 743	93	Sodium myo- inositol transporter (SMIT)	AJ001290cds RNSMIT Rattus norvegicus mRNA for sodium myo-Inositol transporter (SMIT)
AJ0013 20	1344	CAA04 681	1345	AK058011	NP_003 820	91.64	Multiple PDZ domain protein	AJ001320 Rattus norvegicus mRNA for multi PDZ domain protein /cds=(183,6347) /gb=AJ001320 /gi=2959978 /ug=Rn.6684 /len=7497
AJ0013 20	1348	CAA04 681	1349	AK058011	NP_003 820	91.64	Multiple PDZ domain protein	AJ001320 Rattus norvegicus mRNA for multi PDZ domain protein /cds=(183,6347) /gb=AJ001320 /gi=2959978 /ug=Rn.6684 /len=7497
AJ0017 13	1352	T31089	1353	AK001923	NP_008 832	92.46	Rattus norvegicus mRNA for myosin- RhoGAP protein Myr 7	AJ001713 RNMYR7 Rattus norvegicus mRNA for myosin-RhoGAP protein Myr 7
AJ0019 29	1356	CAA05 100	1357	AF257659	O43852	91.5	CBP-50	AJ001829 RNAJ1929 Rattus norvegicus mRNA for of CBP-50 protein
AJ0048 58	1360	S19597	1361	X73039	S34118	88	SRY-box containing gene 11	AJ004858 RNAJ4858 Rattus norvegicus mRNA for Sry-related HMG-box protein Sox11
AJ0049 12	1364	Q63584	1365	X97442	P49755	90.23	Integral membrane protein Tmp21- I (p23)	AJ004912 RNJ004912 Rattus norvegicus mRNA for integral membrane protein Tmp21-I (p23)
AJ0050 46	1368	CAA06 313	1369	NIM_0038 37	O00757	95	Rattus norvegicus mRNA for muscle fructose-1,6- bisphosphatas e	AJ005046 RNAJ5046 Rattus norvegicus mRNA for muscle fructose-1,6- bisphosphatase
								TYPE I MEMBRANE PROTEIN. GOI CISTERNAE
								Transmembrane protein Tmp21 precursor (21 kDa Transmembrane trafficking protein) (Fragment).



Table 2.

AJ0051 13	1372	CAA06 377	1373	D80000	1374	NP_006 287	1375	92.03	SMC-protein	AA859757	AJ005113 RNAJ5113 Rattus norvegicus mRNA for SMC-protein Molecular characterization of a rat heterochromatin associated SMC-protein		
AJ0051 13	1376	CAA06 377	1377	D80000	1378	NP_006 297	1378	92.03	SMC-protein		AJ005113 RNAJ5113 Rattus norvegicus mRNA for SMC-protein Molecular characterization of a rat heterochromatin associated SMC-protein		
AJ0053 94	1380	CAA06 509	1381	BC008760	1382	P20908	1383	96	Collagen alpha 1 type V		AJ005394 RNJ005394 Rattus norvegicus mRNA for collagen alpha 1 type V		
AJ0053 94	1384	CAA06 509	1385	BC008760	1386	P20908	1387	96	Collagen alpha 1 type V		AJ005394 RNJ005394 Rattus norvegicus mRNA for collagen alpha 1 type V		
AJ0060 64	1388	O89046	1389	BC006449	1390	Q9BR76	1391	88.76	coronin-like protein		AJ006064 RNO6064 Rattus norvegicus mRNA for coronin-like protein	Coronin 1B (Coronin 2).	
AJ0060 64	1392	O89046	1393	BC006449	1394	Q9BR76	1395	88.76	coronin-like protein		AJ006064 RNO6064 Rattus norvegicus mRNA for coronin-like protein	Coronin 1B (Coronin 2).	
AJ0067 10	1396	CAA07 199	1397	AK022853	1398	NP_002 638	1399	88.58	phosphatidylin ositol 3-kinase		AJ006710 RNO6710 Rattus norvegicus mRNA for phosphatidylinositol 3-kinase		
AJ0068 55	1400	Q62910	1401	AF009039	1402	O43426	1403	89.07	Synaptojanin 1		AJ006855 RNAJ6855 Rattus norvegicus mRNA for synaptojanin	LOCALIZED MAINLY IN THE SOLUBLE FRACTION	"Synaptojanin 1 (EC 3.1.3.56) (Synaptic inositol-1,4,5- trisphosphate 5- phosphatase 1)."
AJ0069 71	1404	CAA07 360	1405	AB022341	1406	NP_001 339	1407	87.68	DAP-like kinase		AJ006971 RNO6971 Rattus norvegicus mRNA for DAP-like kinase		
AJ0069 71	1408	CAA07 360	1409	AB022341	1410	NP_001 339	1411	87.68	DAP-like kinase		AJ006971 RNO6971 Rattus norvegicus mRNA for DAP-like kinase		
AJ0070 16	1412	CAA07 417	1413	A1816111	1414	NP_003 470	1415	93.2	protein tyrosine phosphatase		AJ007016 RNO7016 Rattus norvegicus mRNA for protein tyrosine phosphatase		
AJ0072 91	1416	CAA07 434	1417	XM_04230 9		XP_042 309		91	CAP1 gene		AJ007291 RNO7291 Rattus norvegicus CAP1 gene		
AJ0072 91	1418	CAA07 434	1419	XM_04230 9		XP_042 309		91	CAP1 gene		AJ007291 RNO7291 Rattus norvegicus CAP1 gene		

Table 2.

AJ0076 27	1420	CAA07 586	1421	AB033108	1422	XP_035 483	1423	89.17	ELK channel 2	AJ007627 RNO7627 Rattus norvegicus mRNA for ELK channel 2
AJ0076 32	1424	CAA07 591	1425	XM_00840 3		XP_008 403		61	ELK channel 3 (Potassium channel)	AJ007632 RNO7632 Rattus norvegicus mRNA for ELK channel 3, partial
AJ0076 32	1426	CAA07 591	1427	XM_00840 3		XP_008 403		61	ELK channel 3 (Potassium channel)	AJ007632 RNO7632 Rattus norvegicus mRNA for ELK channel 3, partial
AJ0086 88	1428	CAA08 786	1429	BC014858	1430	P21895	1431	72	Embrigin protein	AJ008688 RNO8688 Rattus norvegicus mRNA for embrigin protein
AJ0086 98	1432	CAA08 786	1433	BC014858	1434	P21895	1435	72	Embrigin protein	AJ008688 RNO8688 Rattus norvegicus mRNA for embrigin protein
AJ0116 07	1436	CAA09 722	1437	NM_0009 47	1438	P48643	1439	89	DNA polymerase alpha subunit III (primase)	AJ011607 RNO011607 Rattus norvegicus mRNA for DNA polymerase alpha subunit III (primase), partial
AJ0116 07	1440	CAA09 722	1441	NM_0009 47	1442	P48643	1443	89	DNA polymerase alpha subunit III (primase)	AJ011607 RNO011607 Rattus norvegicus mRNA for DNA polymerase alpha subunit III (primase), partial
AJ0128 03	1444	Q8Z1K 9	1445	U68612	1446	P78536	1447	88.87	TNF-alpha converting enzyme (TACE)	AJ012603cds RNO012603 Rattus norvegicus mRNA for TNF-alpha converting enzyme (TACE)
									Type I membrane protein.	ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metalloproteinase domain 17) (TNF-alpha converting enzyme) (TNF- alpha convertase).

Table 4.

AJ012603	1448	Q9Z1K9	1449	U69612	1450	P78536	1451	88.87	TNF-alpha converting enzyme (TACE)	AJ012603cds mRNA for TNF-alpha converting enzyme (TACE)	Type I membrane protein.	ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metalloproteinase (TNF-alpha converting enzyme) (TNF-alpha convertase).
AJ012603	1452	Q9Z1K9	1453	U69612	1454	P78536	1455	88.87	TNF-alpha converting enzyme (TACE)	AJ012603cds mRNA for TNF-alpha converting enzyme (TACE)	Type I membrane protein.	ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metalloproteinase (TNF-alpha converting enzyme) (TNF-alpha convertase).
AJ012603	1456	Q9Z1K9	1457	U69612	1458	P78536	1459	88.87	TNF-alpha converting enzyme (TACE)	AJ012603cds mRNA for TNF-alpha converting enzyme (TACE)	Type I membrane protein.	ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metalloproteinase (TNF-alpha converting enzyme) (TNF-alpha convertase).

Table 2.

AJ012603	1460	Q9Z1K <sub>9</sub>	1461	U69612	1462	P78536	1463	88.87	TNF-alpha converting enzyme (TACE)	AJ012603UTR#1 RNO012603 Rattus norvegicus mRNA for TNF-alpha converting enzyme (TACE)	Type I membrane protein.	ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metalloproteinase (TNF-alpha converting enzyme) (TNF-alpha convertase).
AJ012603	1464	Q9Z1K <sub>9</sub>	1465	U69612	1466	P78536	1467	88.87	TNF-alpha converting enzyme (TACE)	AJ012603UTR#1 RNO012603 Rattus norvegicus mRNA for TNF-alpha converting enzyme (TACE)	Type I membrane protein.	ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metalloproteinase (TNF-alpha converting enzyme) (TNF-alpha convertase).
AJ012603	1468	Q9Z1K <sub>9</sub>	1469	U69612	1470	P78536	1471	88.87	TNF-alpha converting enzyme (TACE)	AJ012603UTR#1 RNO012603 Rattus norvegicus mRNA for TNF-alpha converting enzyme (TACE)	Type I membrane protein.	ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metalloproteinase (TNF-alpha converting enzyme) (TNF-alpha convertase).

Table 2.

AJ012603	1472	Q9Z1K <sub>9</sub>	1473	U69612	1474	P78536	1475	88.87	TNF-alpha converting enzyme (TACE)	AJ012603UTR#1 RNO012603 Rattus norvegicus mRNA for TNF-alpha converting enzyme (TACE)	Type I membrane protein.	ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metalloproteinase with TNF-alpha converting enzyme) (TNF-alpha convertase).
AJ012603	1476	Q9Z1K <sub>9</sub>	1477	U69612	1478	P78536	1479	88.87	TNF-alpha converting enzyme (TACE)	AJ012603UTR#1 RNO012603 Rattus norvegicus mRNA for TNF-alpha converting enzyme (TACE)	Type I membrane protein.	ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metalloproteinase with TNF-alpha converting enzyme) (TNF-alpha convertase).
AJ012603	1480	Q9Z1K <sub>9</sub>	1481	U69612	1482	P78536	1483	88.87	TNF-alpha converting enzyme (TACE)	AJ012603UTR#1 RNO012603 Rattus norvegicus mRNA for TNF-alpha converting enzyme (TACE)	Type I membrane protein.	ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metalloproteinase with TNF-alpha converting enzyme) (TNF-alpha convertase).

Table 2.

AJ012603	1484	Q9Z1K <sub>9</sub>	1485	U69612	1486	P78536	1487	88.87	TNF- $\alpha$ converting enzyme (TACE).	AJ012603UTR#1 RNO012603 Rattus norvegicus mRNA for TNF- $\alpha$ converting enzyme (TACE)	Type I membrane protein.	ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metalloproteinase domain 17) (TNF- $\alpha$ converting enzyme) (TNF- $\alpha$ convertase).
AJ012603	1488	Q9Z1K <sub>9</sub>	1489	U69612	1490	P78536	1491	88.87	TNF- $\alpha$ converting enzyme (TACE)	AJ012603UTR#1 RNO012603 Rattus norvegicus mRNA for TNF- $\alpha$ converting enzyme (TACE)	Type I membrane protein.	ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metalloproteinase domain 17) (TNF- $\alpha$ converting enzyme) (TNF- $\alpha$ convertase).
AJ132230	1492	P97583	1493	AJ238044	1494	P46663	1495	81.38	B1 bradykinin receptor	AJ132230 RNO132230 Rattus norvegicus mRNA for B1 bradykinin receptor	Integral membrane protein.	B1 bradykinin receptor (BK-1 receptor) (B1R) (Kinin B1 receptor)(KB1).
AJ132230	1496	P97583	1497	AJ238044	1498	P46663	1499	81.38	B1 bradykinin receptor	AJ132230 RNO132230 Rattus norvegicus mRNA for B1 bradykinin receptor	Integral membrane protein.	B1 bradykinin receptor (BK-1 receptor) (B1R) (Kinin B1 receptor)(KB1).

Table 2.

AJ223355	1500	211623 2A	1501	BC015797	1502	Q9UBX3	1503	86.37	Rattus norvegicus mRNA for mitochondrial dicarboxylate carrier (see 688)	AJ223355 Rattus norvegicus mRNA for mitochondrial dicarboxylate carrier
AJ223355	1504	211623 2A	1505	BC015797	1506	Q9UBX3	1507	88.37	Rattus norvegicus mRNA for mitochondrial dicarboxylate carrier (see 688)	AJ223355 Rattus norvegicus mRNA for mitochondrial dicarboxylate carrier
AJ224120	1508	CAA11 838	1509	AK001415	1510	NP_003 838	1511	82.5	Peroxisomal membrane protein Pmp26p	AJ224120 Rattus norvegicus peroxisomal membrane protein Pmp26p (Peroxin-11) /cds=(138,878) /gb=AJ224120 /gi=3150212 /ug=Rn.14519 /len=1194
AJ224879	1512	AAA797 80	1513	XM_050153		XP_050153		93	Collagen alpha 1 type II, partial CDS	AJ224879 Rattus norvegicus mRNA for collagen alpha 1 type II, partial CDS /cds=(0,146) /gb=AJ224879 /gi=3164120 /ug=Rn.10124 /len=580
C06598	1514	No Rat Protein Found.		M75099	1515	P26885	1516	90.95	Rat pancreatic islet cDNA Rattus norvegicus cDNA similar to rapamycin-binding protein FKBP-13, mRNA sequence	C06598 C06598 Rat pancreatic islet cDNA Rattus norvegicus cDNA similar to rapamycin-binding protein FKBP-13, mRNA sequence [Rattus norvegicus]
D00092	1517	BAA209 56	1518	XM_041355	1519	XP_041355	1520	76	70 kd mitochondrial autoantigen	D00092 RATMTAA Rattus norvegicus mRNA for 70 kd mitochondrial autoantigen, partial cds
D00189	1521	BAA001 29	1522	ATP1A3		S00801	1523	99	Na <sup>+</sup> -K <sup>+</sup> -ATPase alpha-subunit	D00189 Rattus norvegicus mRNA for Na <sup>+</sup> -K <sup>+</sup> -ATPase alpha-subunit, complete cds /cds=(140,3181) /gb=D00189 /gi=220825 /ug=Rn.10312 /len=3557

L48440

Table 2.

D00189	1524	BAA001 29	1525	ATP1A3	1526	99	Na <sup>+</sup> ,K <sup>+</sup> - ATPase alpha- subunit	D00189 Rattus norvegicus mRNA for Na <sup>+</sup> ,K <sup>+</sup> - ATPase alpha-subunit, complete cds /cds=(140,3181) /gb=D00189 /gi=220825 /ug=Rn.10312 /len=3557	
D00512	1527	BAA004 01	1528	NM_0000 19	1530	76	mitochondrial acetoacetyl- CoA thiolase	D00512 RATACAL Rattus sp. mRNA for mitochondrial acetoacetyl-CoA thiolase precursor, complete cds	
D00512	1531	BAA004 01	1532	NM_0000 19	1534	78	mitochondrial acetoacetyl- CoA thiolase	D00512 RATACAL Rattus sp. mRNA for mitochondrial acetoacetyl-CoA thiolase precursor, complete cds	
D00569	1535	Q84591	1536	L26050	1538	81	Rattus norvegicus mRNA for 2,4- dienoyl-CoA reductase precursor, complete cds	D00569 Rat mRNA for 2,4-dienoyl-CoA reductase (EC 1.3.1.34) /cds=(18,1025) /gb=D00569 /gi=220731 /ug=Rn.2854 /len=1118	Mitochondrial "2,4-dienoyl- CoA reductase, mitochondrial precursor (EC 1.3.1.34) (2,4- dienoyl-CoA reductase [NADPH]) (4- enoyl-CoA reductase [NADPH])."
D00569	1539	Q84591	1540	L26050	1542	81	Rattus norvegicus mRNA for 2,4- dienoyl-CoA reductase precursor, complete cds	D00569 Rat mRNA for 2,4-dienoyl-CoA reductase (EC 1.3.1.34) /cds=(18,1025) /gb=D00569 /gi=220731 /ug=Rn.2854 /len=1118	Mitochondrial "2,4-dienoyl- CoA reductase, mitochondrial precursor (EC 1.3.1.34) (2,4- dienoyl-CoA reductase [NADPH]) (4- enoyl-CoA reductase [NADPH])."



Table 2.

D00569	1543	Q64591	1544	L26050	1545	Q16698	1546	81	Rattus norvegicus mRNA for 2,4-dienoyl-CoA reductase precursor, complete cds	D00569 Rat mRNA for 2,4-dienoyl-CoA reductase (EC 1.3.1.34) /cds=(18,1025) /gb=D00569 /gi=220731 /ug=Rn.2854 /len=1118	Mitochondrial "2,4-dienoyl-CoA reductase, mitochondrial precursor (EC 1.3.1.34) (2,4-dienoyl-CoA reductase [NADPH]) (4-enoyl-CoA reductase [NADPH])."
D00636	1547	BAA00530	1548	NM_000398	1549	P00387	1550	83	NADH-cytochrome b5 reductase	D00636cds RATB5RM Rattus sp. mRNA for NADH-cytochrome b5 reductase, complete cds	
D00636	1551	BAA00530	1552	NM_000398	1553	P00387	1554	83	NADH-cytochrome b5 reductase	D00636Poly_Alt#1 RATB5RM Rattus sp. mRNA for NADH-cytochrome b5 reductase, complete cds	
D00688	1555	BAA00592	1556	NM_000240	1557	P21397	1558	82	monoamine oxidase A	D00688 RATMAOA Rat monoamine oxidase A gene, complete cds	
D00729	1559	BAA00629	1560	Z25820	1561	P42126	1562	83.33	Delta3, delta2-enoyl-CoA isomerase; SEVERAL EXONS; ONLY 1 & 2 LISTED ON THIS SHEET	D00729 Rat mRNA for delta3, delta2-enoyl-CoA isomerase /cds=(77,973) /gb=D00729 /gi=220733 /ug=Rn.24989 /len=1060	
D00729	1563	BAA00629	1564	Z25820	1565	P42126	1566	83.33	Delta3, delta2-enoyl-CoA isomerase; SEVERAL EXONS; ONLY 1 & 2 LISTED ON THIS SHEET	D00729 Rat mRNA for delta3, delta2-enoyl-CoA isomerase /cds=(77,973) /gb=D00729 /gi=220733 /ug=Rn.24989 /len=1060	

Table 2.

D00913	1567	BAA00759	1568	NM_000201	1569	P05362	1570	50	Intercellular adhesion molecule-1	D00913 RAT1CAM Rattus sp. mRNA for Intercellular adhesion molecule-1, complete cds	Membrane-bound.	Syntaxin 1A (Synaptotagmin associated 35 kDa protein) (P35A)(Neuron-specific antigen HPC-1).
D00913	1571	BAA00759	1572	NM_000201	1573	P05362	1574	50	Intercellular adhesion molecule-1	D00913 RAT1CAM Rattus sp. mRNA for Intercellular adhesion molecule-1, complete cds		
D10392	1575	P32851	1576	BC003011	1577	Q16823	1578	92.7	Rattus norvegicus syntaxin A mRNA, 3' end	D10392 Rat mRNA for HPC-1 antigen, C-terminal /cds=(0,897) /gb=D10392 /gi=220778 /lug=Rn.9943 /len=2130		
D10587	1579	BAA01444	1580	D12876	1581	Q14108	1582	82	85kDa sialoglycoprotein (LGP85)	D10587 RATLGP85 Rattus sp. mRNA for 85kDa sialoglycoprotein (LGP85), complete cds	Mitochondrial matrix.	Dihydrolipoamide acetyltransferase component of pyruvate dehydrogenase complex (EC 2.3.1.12) (E2) (PDC-E2) (70 kDa mitochondrial autoantigen of primary biliary cirrhosis) (PBC) (Fragment).
D10587	1583	BAA01444	1584	D12876	1585	Q14108	1586	82	85kDa sialoglycoprotein (LGP85)	D10587 RATLGP85 Rattus sp. mRNA for 85kDa sialoglycoprotein (LGP85), complete cds		
D10655	1587	P08461	1588	Y00978	1589	P10515	1590	79	Dihydrolipoamide acetyltransferase	D10655 RATPDCE2 Rat mRNA for dihydrolipoamide acetyltransferase		

Table 2.

D10655	1591	P08461	1592	Y00978	1593	P10515	1594	79	Dihydrolipoamide acetyltransferase	Dihydrolipoamide acetyltransferase	Mitochondrial matrix	D10655 RATPDCE2 Rat mRNA for dihydrolipoamide acetyltransferase
D10666	1595	P28677	1596	AF039555	1597	P28677	1598	91.73	Neural visinin-like protein 1	Neural visinin-like protein 1 (VILIP-1) (Neural visinin-like protein 1) (NVL-1) (NVP-1) (21 kDa CABP) (Neurocalcin alpha) (Hippocalcin-like protein3) (HLP3).		D10666 Rat mRNA for neural visinin-like protein (NVP), complete cds /cds=(239,814) /gb=D10666 /gi=220827 /ug=Rn.10582 /len=1051
D10706	1599	BAA01549	1600	NM_004152	1601	NP_004143	1602	84	Ornithine decarboxylase antizyme	Ornithine decarboxylase antizyme		D10706 RATODCB Rat mRNA for ornithine decarboxylase antizyme, complete cds
D10706	1603	BAA01549	1604	NM_004152	1605	NP_004143	1605	84	Ornithine decarboxylase antizyme	Ornithine decarboxylase antizyme		D10706 RATODCB Rat mRNA for ornithine decarboxylase antizyme, complete cds
D10706	1607	BAA01549	1608	NM_004152	1609	NP_004143	1610	84	Ornithine decarboxylase antizyme	Ornithine decarboxylase antizyme		D10706cds#2 RATODCB Rat mRNA for ornithine decarboxylase antizyme, complete cds

Table Z.

D10706	1611	BAA015 49	1612	NM_0041 52	1613	NP_004 143	1614	84	Ornithine decarboxylase antizyme	D10706cds#2 RATODCB Rat mRNA for ornithine decarboxylase antizyme, complete cds
D10706	1615	BAA015 49	1616	NM_0041 52	1617	NP_004 143	1618	84	Ornithine decarboxylase antizyme	D10706cds#3 RATODCB Rat mRNA for ornithine decarboxylase antizyme, complete cds
D10706	1619	BAA015 49	1620	NM_0041 52	1621	NP_004 143	1622	84	Ornithine decarboxylase antizyme	D10706cds#3 RATODCB Rat mRNA for ornithine decarboxylase antizyme, complete cds
D10729	1623	BAA015 72	1624	XM_01687 9		XP_016 878		93	proteasome subunit RC1	D10729 RATPSRC1 Rat mRNA for proteasome subunit RC1
D10770	1625	BAA016 01	1626	NM_0027 31	1627	P22684	1628	96	Rat mRNA for beta isoform of catalytic subunit of cAMP- dependent protein kinase	D10770 RATCDPK Rat mRNA for beta isoform of catalytic subunit of cAMP- dependent protein kinase, complete cds
D10852	1629	Q02527	1630	L48489	1631	Q09327	1632	94.12	Mannoside acetyl glucosaminyl transferase 3	D10852 Rat mRNA for N- acetylglucosaminyltransferase III, complete cds /cds=(57,1667) /gb=D10852 /gi=220821 /ug=Rn.9803 /len=2684
										Type II membrane protein. Golgi.
										"Beta-1,4- mannosyl- glycoprotein beta-1,4-N- acetylglucosami nyl-transferase (EC 2.4.1.144) (N-glycosyl- oligosaccharide- glycoproteinN- acetylglucosami nyltransferase III) (N- acetylglucosami nyltransferaseIII "

Table 2.

D12498	1633	Q04589	1634	XIM_016079	XP_016079	91	FGF receptor-1	D12498 RATFGFR1 Rat mRNA for FGF receptor-1, complete cds	Type I membrane protein.	Basic fibroblast growth factor receptor 1 precursor (EC 2.7.1.112)(FGF R-1) (bFGF-R) (MFR).
D12524	1635	BAA02094	1636	NIM_000222	P10721	79	α-kit receptor tyrosine kinase.	D12524 RATCKITPO Rat mRNA for α-kit receptor tyrosine kinase		
D12573	1639	P32076	1640	NIM_002143	P32076	90,78	Hippocalcin	D12573 Rat mRNA for neuron specific calcium-binding protein hippocalcin, complete cds /cds=(174,755) /gb=D12573 /gi=391860 /ug=Rn.11018 /len=1561		Neuron specific calcium-binding protein hippocalcin (P23K) (Calcium binding protein BDR-2).
D12769	1643	Q01713	1644	NIM_001206	Q13886	91	Rattus norvegicus mRNA for BTE binding protein, complete cds	D12769 RATBTEB Rattus norvegicus mRNA for BTE binding protein	Nuclear.	Transcription factor BTEB1 (Basic transcription element binding protein 1) (BTE-binding protein 1) (GC box binding protein 1).

Table Z.

D12769	1647	Q01713	1648	NM_001206	1649	Q13886	1650	91	Rattus norvegicus mRNA for BTE binding protein, complete cds	AA891873	D12769 RATBTEB Rattus norvegicus mRNA for BTE binding protein	Nuclear.	Transcription factor BTEB1 (Basic transcription element binding protein 1) (GC box binding protein 1).
D12927	1651	BAA02310	1652	NM_003195	1653	NP_003186	1654	85	transcription elongation factor S-II		D12927 RATSIT1 Rattus sp. mRNA for transcription elongation factor S-II, complete cds		
D13122	1655	Q03344	1656	NM_016311	1657	Q8UII2	1658	74	Rattus norvegicus mRNA for ATPase inhibitor protein, complete cds		D13122 RATATPI Rattus norvegicus mRNA for ATPase inhibitor protein, complete cds	Mitochondrial	"ATPase inhibitor, mitochondrial precursor."
D13122	1659	Q03344	1660	NM_016311	1661	Q8UII2	1662	74	ATPase inhibitor (rat mitochondrial IF1 protein)		D13122 RATATPI Rattus norvegicus mRNA for ATPase inhibitor protein, complete cds	Mitochondrial	"ATPase inhibitor, mitochondrial precursor."
D13122	1663	Q03344	1664	NM_016311	1665	Q8UII2	1666	74	Rattus norvegicus mRNA for ATPase inhibitor protein, complete cds	AA891873	D13122 RATATPI Rattus norvegicus mRNA for ATPase inhibitor protein, complete cds	Mitochondrial	"ATPase inhibitor, mitochondrial precursor."
D13122	1667	Q03344	1668	NM_016311	1669	Q8UII2	1670	74	ATPase inhibitor (rat mitochondrial IF1 protein)		D13122 RATATPI Rattus norvegicus mRNA for ATPase inhibitor protein, complete cds	Mitochondrial	"ATPase inhibitor, mitochondrial precursor."

Table 2.

D13126	1671	P35333	1672	NM_002149	1673	P37235	1674	90.54	Neural visinin-like Ca <sup>2+</sup> -binding protein type 3 (NVP-3)	D13126 Rat mRNA for neural visinin-like Ca <sup>2+</sup> -binding protein type 3 (NVP-3), complete cds /cds=(291,872) /gb=D13126 /gi=286243 /ug=Rn.9661 /len=1015	Visinin-like protein 3 (VILIP-3) (Neural visinin-like protein 3)(NVL-3) (NVP-3) (Hippocalcin-like protein 1).
D13127	1675	Q06647	1676	AW449493	1677	CAA58219	1678	92.78	Rattus norvegicus mRNA for oligomycin sensitivity conferring protein, complete cds	D13127 RATOSCP Rattus norvegicus mRNA for oligomycin sensitivity conferring protein, complete cds	ATP synthase oligomycin sensitivity conferring protein, mitochondrial precursor (EC 3.6.3.14) (OSCP)."
D13127	1679	Q06647	1680	AW449493	1681	CAA58219	1682	92.78	Rattus norvegicus mRNA for oligomycin sensitivity conferring protein, complete cds	D13127 RATOSCP Rattus norvegicus mRNA for oligomycin sensitivity conferring protein, complete cds	ATP synthase oligomycin sensitivity conferring protein, mitochondrial precursor (EC 3.6.3.14) (OSCP)."
D13907	1683	Q03348	1684	AF054182	1685	Q75439	1686	88	Mitochondrial processing peptidase beta	D13907 Rat mRNA for mitochondrial processing peptidase P52, partial sequence /cds=(0,1463) /gb=D13907 /gi=397698 /ug=Rn.841 /len=1570	Mitochondrial processing peptidase beta subunit, mitochondrial precursor (EC 3.4.24.84) (Beta-MPP) (P-52)."

Table 2.

D13907	1687	Q03346	1688	AF054182	1689	O75439	1690	88	Mitochondrial processing peptidase beta subunit
									D13907 Rat mRNA for mitochondrial processing protease P52, partial sequence /cds=(0,1463) /gb=D13907 /gi=397698 /ug=Rn.841 /len=1570
									Mitochondrial matrix.
D13907	1691	Q03346	1692	AF054182	1693	O75439	1694	88	Mitochondrial processing peptidase beta subunit
									D13907 Rat mRNA for mitochondrial processing protease P52, partial sequence /cds=(0,1463) /gb=D13907 /gi=397698 /ug=Rn.841 /len=1570
									Mitochondrial matrix.
D13907	1695	Q03346	1696	AF054182	1697	O75439	1698	88	Mitochondrial processing peptidase beta subunit
									D13907 Rat mRNA for mitochondrial processing protease P52, partial sequence /cds=(0,1463) /gb=D13907 /gi=397698 /ug=Rn.841 /len=1570
									Mitochondrial matrix.
D13962	1699	Q07647	1700	M20681	1701	P11169	1702	83	Solute carrier family 2, facilitated glucose transporter, member 3(Glucose transporter type 3, brain)."
									D13962 RATGLUT3 Rat mRNA for neuron glucose transporter
									Integral membrane protein.
D13963	1703	P35349	1704	NIM_00043	1705	NP_000834	1706	89.29	Metabotropic glutamate receptor subtype
									D13963 RATMGLUR6 Rat mRNA for metabotropic glutamate receptor subtype, complete cds
									Integral membrane protein.
									Metabotropic glutamate receptor 6 precursor (mGluR6).





Table 2.

D14419	1747	AA4419 10	1748	NM_0027 17	1749	Q00007	1750	95	Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha	D14419 Rattus norvegicus PP2A BRa mRNA for B regulatory subunit of protein phosphatase 2A, partial cde
D14421	1751	BAA033 13	1752	NM_0045 76	1753	NP_004 567	1754	100	b isotype of B regulatory subunit of protein phosphatase 2A	D14421 RATPP2ABRB Rat PP2A BRb mRNA for b isotype of B regulatory subunit of protein phosphatase 2A, partial sequence
D14421	1755	BAA033 13	1756	NM_0045 76	1757	NP_004 567	1758	100	b isotype of B regulatory subunit of protein phosphatase 2A	D14421 RATPP2ABRB Rat PP2A BRb mRNA for b isotype of B regulatory subunit of protein phosphatase 2A, partial sequence
D14568	1759	P06705	1760	M30773	1761	P06705	1762	100	Protein phosphatase 3, regulatory subunit B, alpha isoform (calcineurin B, type I)	D14568 RATRSCDPP Rat mRNA for calcineurin B
									Calcineurin B subunit isoform 1 (Protein phosphatase 2B regulatory subun it 1) (Protein phosphatase 3 regulatory subunit B alpha isoform1).	

Table 2.

D14591	1763	Q01986	1764	B1549938	1765	Q02750	1766	93.33	Mitogen activated protein kinase kinase 2	D14591 RATMEK1 Rat mRNA for MAP kinase kinase, complete cds	Dual specificity mitogen- activated protein kinase kinase 1(EC 2.7.1.-) (MAP kinase kinase 1) (MAPKK 1) (ERK activator kinase 1)(MAPK/ERK kinase 1) (MEK1).
D14688	1767	P18666	1768	XM_041677		XP_041677		91	myosin regulatory light chain	D14688 RATMLRC Rattus norvegicus mRNA for myosin regulatory light chain, complete cds	"Myosin regulatory light chain 2-B, smooth muscle isoform (MyosinRLC- B)."
D14819	1769	BAA03557	1770	NM_016257	1771	NP_057341	1772	97	Rat mRNA for calcium- binding protein P23k beta, partial cds	D14819 RATCBPP23B Rat mRNA for calcium-binding protein P23k beta, partial cds	
D14839	1773	P38364	1774	NM_002010	1775	P31371	1776	99	Fibroblast growth factor 9	D14839 Rat mRNA for FGF-9, complete cds /cds=(177,803) /gb=D14839 /g=391852 /ug=Rn.25174 /len=1084	Glia-activating factor precursor (GAP) (Fibroblast growth factor- 9)(FGF-9) (HBGF-9).

Secreted.

Table 2.

D16302	1777	Q09325	1778	NM_002406	1779	P26572	1780	84	N-acetylglucosaminyltransferase I	D16302 Rat mRNA for N-acetylglucosaminyltransferase I, complete cds /cds=(157,1500) /gb=D16302 /gi=455397 /ug=Rn.2712 /len=2546	Type II membrane protein. Golgi.	"Alpha-1,3-mannosyl-glycoprotein beta-1,2-N-acetylglucosaminyltransferase (EC 2.4.1.101) (N-glycosyl-oligosaccharide-glycoprotein N-acetylglucosaminyltransferase I) (GNT-I) (GlcNAc-T I)."
D16308	1781	BAA03815	1782	NM_001759	1783	P30279	1784	92	Cyclin D2	D16308 RATCLND2 Rat mRNA for cyclin D2, complete cds		
D16309	1785	BAA03816	1786	NM_001760	1787	P30281	1788	80	Cyclin D3	D16309 RATCLND3 Rat mRNA for cyclin D3, complete cds		
D16309	1789	BAA03816	1790	NM_001760	1791	P30281	1792	80	Cyclin D3	D16309 RATCLND3 Rat mRNA for cyclin D3, complete cds		
D16309	1793	BAA03816	1794	NM_001760	1795	P30281	1796	80	Cyclin D3	D16309 RATCLND3 Rat mRNA for cyclin D3, complete cds		
D16309	1797	BAA03816	1798	NM_001760	1799	P30281	1800	80	Cyclin D3	D16309 RATCLND3 Rat mRNA for cyclin D3, complete cds		
D16817	1801	P35400	1802	X94552	1803	Q14831	1804	91.34	Metabotropic glutamate receptor mGluR7	D16817 RATMGRM Rat mRNA for metabotropic glutamate receptor mGluR7	Integral membrane protein.	Metabotropic glutamate receptor 7 precursor (mGluR7).

Table 2.

D17310	1805	P23457	1808	NIM_0143 42	1807	BAA895 42	1808	94.39	Steroid 3- alpha- dehydrogenase	D17310 RATS3AD Rat mRNA for steroid 3- alpha-dehydrogenase, complete cds	Cytoplasmic.	3-alpha- hydroxysteroid dehydrogenase (EC 1.1.1.50) (3- alpha- HSD)(Hydroxypr ostaglandin dehydrogenase)
D17370	1809	P18757	1810	S52028	1811	P32929	1812	84.51	CTL target antigen	D17370 RATCGL Rat mRNA for cystathionine gamma-lyase, complete cds	Cytoplasmic.	Cystathionine gamma-lyase (EC 4.4.1.1) (Gamma- cystathionase)( Probasin-related antigen) (PRB- RA).
D17521	1813	BAA044 71	1814	NIM_0018 29	1815	NP_001 820	1816	90	Protein kinase C-regulated chloride channel	D17521 RATCLC3 Rat mRNA for protein kinase C-regulated chloride channel, complete cds		
D17614	1817	P35216	1818	NIM_0088 26	1819	P27348	1820	99	14-3-3 protein theta-subtype	D17614 Rat mRNA for 14-3-3 protein theta- subtype, complete cds /cds=(85,822) /gb=D17614 /gi=402508 /ug=Rn.2502 /len=2099	Cytoplasmic.	14-3-3 protein tau (14-3-3 protein theta).

Table 2.

D17711	1821	Q07244	1822	BF930538	1823	P54296	1824	96.75	Rattus norvegicus mRNA for dC-stretch binding protein (CSBP), complete cds	D17711cds RATCSBP Rat mRNA for dC-stretch binding protein (CSBP), complete cds	CYTOPLAS MIC AND NUCLEAR; NUCLEOPLAS SM.	Heterogeneous nuclear ribonucleoprotein K (hnRNP K) (DC-stretchbinding protein) (CSBP) (Transformation upregulated nuclear protein)(TUNP).
D17711	1825	Q07244	1826	BF930538	1827	P54296	1828	96.75	Rattus norvegicus mRNA for dC-stretch binding protein (CSBP), complete cds	D17711cds RATCSBP Rat mRNA for dC-stretch binding protein (CSBP), complete cds	CYTOPLAS MIC AND NUCLEAR; NUCLEOPLAS SM.	Heterogeneous nuclear ribonucleoprotein K (hnRNP K) (DC-stretchbinding protein) (CSBP) (Transformation upregulated nuclear protein)(TUNP).
D17711	1829	Q07244	1830	BF930538	1831	P54296	1832	96.75	dC-stretch binding protein (CSBP)	D17711cds RATCSBP Rat mRNA for dC-stretch binding protein (CSBP), complete cds	CYTOPLAS MIC AND NUCLEAR; NUCLEOPLAS SM.	Heterogeneous nuclear ribonucleoprotein K (hnRNP K) (DC-stretchbinding protein) (CSBP) (Transformation upregulated nuclear protein)(TUNP).

Table 2.

D17809	1833	Q10468	1834	M83651	1835	Q00973	1836	87.83	Beta-4N- acetylglactosaminyltransferase	NM_022860	D17809 Rat mRNA for beta-4N-acetylglactosaminyltransferase, complete cds /cds=(30,1631) /gb=D17809 /gi=497841 /ug=Rn.10119 /len=2166	Type II membrane protein. Golgi.	"Beta-1,4 N-acetylglactosaminyltransferase (EC 2.4.1.92) ((N-acetylneuraminyl)-)galactosylglucosylceramide) (GM2/GD2 synthase)(GalNAc-T)." "
D21132	1837	P53812	1838	NM_012399	1839	P48739	1840	98	phosphatidylinositol transfer protein	AA998446	D21132 Rat mRNA for phosphatidylinositol transfer protein (beta isoform), complete cds /cds=(24,839) /gb=D21132 /gi=516831 /ug=Rn.2399 /len=2880	Cytoplasmic.	Phosphatidylinositol transfer protein beta isoform (PtdIns transfer protein beta) (PtdInsTP) (PI-TP-beta).
D21869	1841	NP_113903	1842	BC007798	1843	P08237	1844	96	PKF-M (phosphofructokinase-M)	NM_031715	D21869 RATPFKM04 Rat mRNA for PKF-M (phosphofructokinase-M), partial cds		
D25233	1845	P33568	1846	L41870	1847	P06400	1848	89.34	Rattus norvegicus mRNA for retinoblastoma protein, partial sequence		D25233cds RATRP Rat mRNA for retinoblastoma protein, partial sequence	Nuclear.	Retinoblastoma-associated protein (PP105) (RB) (Fragment).
D25233	1849	P33568	1850	L41870	1851	P06400	1852	89.34	retinoblastoma protein, partial sequence		D25233cds RATRP Rat mRNA for retinoblastoma protein, partial sequence	Nuclear.	Retinoblastoma-associated protein (PP105) (RB) (Fragment).

Table 2.

D25233	1853	P33568	1854	L41870	1855	P06400	1856	89.34	Rattus norvegicus mRNA for retinoblastoma protein, partial sequence	D25233UTR#1 RATRP Rat mRNA for retinoblastoma protein, partial sequence	Nuclear.	Retinoblastoma-associated protein (PP105) (RB) (Fragment).
D25233	1857	P33568	1858	L41870	1859	P06400	1860	89.34	retinoblastoma 1	D25233UTR#1 RATRP Rat mRNA for retinoblastoma protein, partial sequence	Nuclear.	Retinoblastoma-associated protein (PP105) (RB) (Fragment).
D25233	1861	P33568	1862	L41870	1863	P06400	1864	89.34	Rattus norvegicus mRNA for retinoblastoma protein, partial sequence	D25233UTR#1 RATRP Rat mRNA for retinoblastoma protein, partial sequence	Nuclear.	Retinoblastoma-associated protein (PP105) (RB) (Fragment).
D25233	1865	P33568	1866	L41870	1867	P06400	1868	89.34	retinoblastoma 1	D25233UTR#1 RATRP Rat mRNA for retinoblastoma protein, partial sequence	Nuclear.	Retinoblastoma-associated protein (PP105) (RB) (Fragment).
D25543	1869	BAA05026	1870	X75304	1871	CAA53052	1872	64	Novel golgi-associated protein GCP360	D25543 RATGCP60 Rat mRNA for novel golgi-associated protein GCP360, complete cds		
D25543	1873	BAA05026	1874	X75304	1875	CAA53052	1876	64	Novel golgi-associated protein GCP360	D25543 RATGCP60 Rat mRNA for novel golgi-associated protein GCP360, complete cds		
D26073	1877	BAA05068	1878	XM_008138		XP_008138		92	phosphoribosyl pyrophosphate synthetase-associated protein (39 kDa)	D26073 RATPSAP Rat mRNA for phosphoribosyl pyrophosphate synthetase-associated protein (38kDa)		



Table 2.

D26073	1879	BAA050 68	1880	XM_00813 8	XP_008 138	92	phosphoribosyl pyrophosphate associated protein (39 kDa)	AA891871	D26073 RATPSAP Rat mRNA for phosphoribosylpyrophosphate synthetase- associated protein (39kDa)
D26154	1881	BAA051 41	1882	XM_03262 7	XP_032 627	82	RB109 (brain specific protein)		D26154cds RATRB109 Rat mRNA for RB109 (brain specific protein), complete cds
D26154	1883	BAA051 41	1884	XM_03262 7	XP_032 627	82	RB109 (brain specific protein)		D26154cds RATRB109 Rat mRNA for RB109 (brain specific protein), complete cds
D26154	1885	BAA051 41	1886	XM_03262 7	XP_032 627	82	RB109 (brain specific protein)		D26154UTR#1 RATRB109 Rat mRNA for RB109 (brain specific protein), complete cds
D26154	1887	BAA051 41	1888	XM_03262 7	XP_032 627	82	RB109 (brain specific protein)		D26154UTR#1 RATRB109 Rat mRNA for RB109 (brain specific protein), complete cds
D26154	1889	BAA051 41	1890	XM_03262 7	XP_032 627	82	RB109 (brain specific protein)		D26154UTR#1 RATRB109 Rat mRNA for RB109 (brain specific protein), complete cds
D26154	1891	BAA051 41	1892	XM_03262 7	XP_032 627	82	RB109 (brain specific protein)		D26154UTR#1 RATRB109 Rat mRNA for RB109 (brain specific protein), complete cds
D26178	1893	BAA051 66	1894	NM_0149 20	NP_055 735	79	serine/threonine protein kinase		D26178 Rat heart mRNA serine/threonine protein kinase, complete cds /cds=(296,2185) /gb=D26178 /gi=1127035 /ug=Rn.3750 /len=2350

Table 2.

D26180	1897	Q63433	1898	XM_031273	1899	XP_031273	1900	78	novel protein kinase PKN	D26180 Rat mRNA for novel protein kinase PKN, complete cds /cds=(125,2965) /gb=D26180 /gi=485401 /ug=Rn.10071 /len=3035	Cytoplasmic.	Protein kinase C-like 1 (EC 2.7.1.-) (Protein-kinase C-related kinase 1) (Protein kinase C-like PKN) (Serine-threonine protein kinase N) (Protease-activated kinase 1) (PAK-1).
D26500	1901	BAA05508	1902	NM_001372	1903	Q8NYC9	1904	80	Dynain-like protein 9A, partial cds	D26500 RATDLP8A Rat mRNA for dynein-like protein 9A, partial cds		
D28512	1905	P40748	1906	AL136594	1907	Q9BQG1	1908	87.74	Synaptotagmin III	D28512 RATSIII Rat mRNA for Synaptotagmin III, complete cds	Integral membrane protein. Synaptic vesicles.	Synaptotagmin III (SyIII).
D28557	1909	Q62764	1910	BE122757	1911	P20618	1912	96.92	RYB-a	D28557 Rat mRNA for RYB-a, complete cds /cds=(50,926) /gb=D28557 /gi=505132 /ug=Rn.3306 /len=1500	Nuclear.	DNA-binding protein A (Cold shock domain protein A) (Muscle Y-box protein YB2) (Y-box binding protein-A) (RYB-A).
D28683	1913	P42893	1914	Z35307	1915	P42892	1916	89.92	endothelin-converting enzyme	D28683 Rat mRNA for endothelin-converting enzyme, complete cds /cds=(96,2360) /gb=D28683 /gi=529084 /ug=Rn.7000 /len=4469	Type II membrane protein.	Endothelin-converting enzyme 1 (EC 3.4.24.71) (ECE-1).

Table 2.

D29766	1917	Q63767	1918	AJ242987	1919	P56945	1920	91	V-crk-associated tyrosine kinase substrate	D29766cds#1 R4TP130CAs Rattus norvegicus mRNA for Crk-associated substrate, p130, complete cds	FOCAL ADHESIONS AND STRESS FIBERS. UNPHOSPHORYLATED FORM LOCALIZES IN THE CYTOPLASM AND CAN MOVE TO THE MEMBRANE UPON TYROSINE PHOSPHORYLATION.	CRK-associated substrate (P130CAs) (Breast cancer anti-estrogenresistance 1 protein).
D29766	1921	Q63767	1922	AJ242987	1923	P56945	1924	91	V-crk-associated tyrosine kinase substrate	D29766Poly_AS1cds#1 R4TP130CAs Rattus norvegicus mRNA for Crk-associated substrate, p130, complete cds	FOCAL ADHESIONS AND STRESS FIBERS. UNPHOSPHORYLATED FORM LOCALIZES IN THE CYTOPLASM AND CAN MOVE TO THE MEMBRANE UPON TYROSINE PHOSPHORYLATION.	CRK-associated substrate (P130CAs) (Breast cancer anti-estrogenresistance 1 protein).

Table Z.

D29960	1925	P97541	1926	NM_001885	1927	P02511	1928	46	alphaB crystallin-related protein	AI103838	D29960 Rat mRNA for alphaB crystallin-related protein, complete cds /cds=(5,493) /gb=D29960 /gi=1753175 /ug=Rn.3201 /len=1310	Heat-shock 20 kDa like-protein P20.
D30041	1929	P47187	1930	AK054771	1931	P31751	1932	92.46	RAC protein kinase beta		D30041 Rat mRNA for RAC protein kinase beta, complete cds /cds=(281,1728) /gb=D30041 /gi=485404 /ug=Rn.4293 /len=1884	"RAC-beta serine/threonine protein kinase (EC 2.7.1.-) (RAC-PK-beta) (Protein kinase Akt-2) (Protein kinase B, beta) (PKB beta)."
D30647	1933	P45953	1934	AF006012	1935	O14641	1936	93.4	Acyl-CoA dehydrogenase, Very long chain		D30647 Rat mRNA for very-long-chain Acyl-CoA dehydrogenase, complete cds /cds=(21,1988) /gb=D30647 /gi=533356 /ug=Rn.10279 /len=2102	Mitochondrial inner membrane. "Acyl-CoA dehydrogenase, very-long-chain specific, mitochondrial precursor (EC 1.3.99.-) (VLCAD)."
D30649	1937	BAA06333	1938	AF005632	1939	AAC51813	1940	86.75	Phosphodiesterase I		D30649mRNA RATPDIB Rat mRNA for phosphodiesterase I, complete cds	
D30649	1941	BAA06333	1942	AF005632	1943	AAC51813	1944	86.75	Phosphodiesterase I		D30649mRNA RATPDIB Rat mRNA for phosphodiesterase I, complete cds	
D30734	1945	BAA06398	1946	D78155	1947	Q15283	1948	85	Ras GTPase-activating protein		D30734 RATGAP1M Rat mRNA for Ras GTPase-activating protein, complete cds	
D30739	1949	BAA06401	1950	NM_003408	1951	P28312	1952	99	mitochondrial import stimulation factor (MSF) L subunit		D30739 RAT1433PA Rat 14-3-3 protein mRNA for mitochondrial import stimulation factor (MSF) L subunit, complete cds	
D30804	1953	BAA06463	1954	NM_002792	1955	O14818	1956	95	Proteasome subunit RC6-1		D30804 RATPSRC6l Rat mRNA for proteasome subunit RC6-1, complete cds	
D30804	1957	BAA06463	1958	NM_002792	1959	O14818	1960	95	Proteasome subunit RC6-1		D30804 RATPSRC6l Rat mRNA for proteasome subunit RC6-1, complete cds	

Table 2.

D30804	1981	BAA064 63	1982	NIM_0027 92	1983	O14818	1984	95	Proteasome subunit RC6-1	D30804 RATPSRC6l Rat mRNA for proteasome subunit RC6-1, complete cds		
D30804	1985	BAA064 63	1986	NIM_0027 92	1987	O14818	1988	95	Proteasome subunit RC6-1	D30804 RATPSRC6l Rat mRNA for proteasome subunit RC6-1, complete cds		
D31873	1969	P53669	1970	NIM_0167 35	1971	P53667	1972	88.55	LIM-domain containing, protein kinase	D31873 Rat mRNA for LIMK-1, complete cds /cds=(208,2151) /gb=D31873 /gi=1684611 /ug=Rn.11250 /len=3258	Cytoplasmic	LIM domain kinase 1 (EC 2.7.1.37) (LIMK- 1).
D31873	1973	P53669	1974	NIM_0167 35	1975	P53667	1976	88.55	LIM-domain containing, protein kinase	D31873 Rat mRNA for LIMK-1, complete cds /cds=(208,2151) /gb=D31873 /gi=1684611 /ug=Rn.11250 /len=3258	Cytoplasmic	LIM domain kinase 1 (EC 2.7.1.37) (LIMK- 1).
D31873	1977	P53669	1978	NIM_0167 35	1979	P53667	1980	88.55	LIM-domain containing, protein kinase	D31873 Rat mRNA for LIMK-1, complete cds /cds=(208,2151) /gb=D31873 /gi=1684611 /ug=Rn.11250 /len=3258	Cytoplasmic	LIM domain kinase 1 (EC 2.7.1.37) (LIMK- 1).
D31873	1981	P53669	1982	NIM_0167 35	1983	P53667	1984	88.55	LIM-domain containing, protein kinase	D31873 Rat mRNA for LIMK-1, complete cds /cds=(208,2151) /gb=D31873 /gi=1684611 /ug=Rn.11250 /len=3258	Cytoplasmic	LIM domain kinase 1 (EC 2.7.1.37) (LIMK- 1).
D31873	1985	P53669	1986	NIM_0167 35	1987	P53667	1988	88.55	LIM-domain containing, protein kinase	D31873 Rat mRNA for LIMK-1, complete cds /cds=(208,2151) /gb=D31873 /gi=1684611 /ug=Rn.11250 /len=3258	Cytoplasmic	LIM domain kinase 1 (EC 2.7.1.37) (LIMK- 1).
D31873	1989	P53669	1990	NIM_0167 35	1991	P53667	1992	88.55	LIM-domain containing, protein kinase	D31873 Rat mRNA for LIMK-1, complete cds /cds=(208,2151) /gb=D31873 /gi=1684611 /ug=Rn.11250 /len=3258	Cytoplasmic	LIM domain kinase 1 (EC 2.7.1.37) (LIMK- 1).
D31874	1993	P53670	1994	BC013051	1995	P53671	1996	91.03	LIM motif- containing protein kinase 2	D31874 Rat mRNA for LIMK-2a, complete cds /cds=(62,1978) /gb=D31874 /gi=1684612 /ug=Rn.11013 /len=3455	Cytoplasmic	LIM domain kinase 2 (EC 2.7.1.-) (LIMK- 2).
D32249	1997	BAA069 79	1998	AB007898	1999	XP_003 693	2000	93.33	Neurodegenera- tion associated protein 1.	D32249 RATNDAP1 Rattus rattus mRNA for neurodegeneration associated protein 1, complete cds		

Table 2.

D32249	2001	BAA069 79	2002	AB007898	2003	XP_003 693	2004	93.33	Neurodegener- ation associated protein 1	E13644	D32249 RATNDAP1 Rattus rattus mRNA for neurodegeneration associated protein 1, complete cds		
D32249	2005	BAA069 79	2006	AB007898	2007	XP_003 693	2008	93.33	Neurodegener- ation associated protein 1	E13644	D32249 RATNDAP1 Rattus rattus mRNA for neurodegeneration associated protein 1, complete cds		
D37880	2009	P55146	2010	U02566	2011	Q06418	2012	88.67	Bruton agammaglobu- linemia tyrosine kinase		D37880 Rat mRNA for Sky, complete cds /cds=(25,2667) /gb=D37880 /gi=1498195 /ug=Rn.8883 /len=3726	Type I membrane protein.	Tyrosine-protein kinase receptor TYRO3 precursor (EC 2.7.1.112)(Tyros- ine-protein kinase SKY).
D38222	2013	g10548 35	2014	L18983	2015	Q16849	2016	86	Rattus norvegicus tyrosine phosphatase- like protein IA- 2a mRNA, partial cds		D38222 RATDPTPLP Rat mRNA for protein tyrosine phosphatase-like protein, complete cds		
D38455	2017	P50343	2018	XM_01810 4	2019	XP_018 104	2020	75	Mast cell tryptase precursor		D38455 Rat mRNA for mast cell tryptase precursor, complete cds /cds=(25,849) /gb=D38455 /gi=556555 /ug=Rn.10183 /len=1087		Mast cell protease 6 precursor (EC 3.4.21.59) (RMCP-6) (Tryptase).
D38492	2021	Q63188	2022	XM_03871 9		XP_038 719		95	neural adhesion molecule F3		D38492 Rat mRNA for neural adhesion molecule F3, complete cds /cds=(134,3199) /gb=D38492 /gi=1498183 /ug=Rn.21397 /len=3214	Attached to the membrane by a GPI- anchor.	Contactin precursor (Neural adhesion molecule F3).
D38629	2023	P70478	2024	XM_04393 3		XP_043 933		75	APC protein (adenomatous polyps coli)	L19306	D38629 Rat mRNA for APC protein, complete cds /cds=(53,8581) /gb=D38629 /gi=928855 /ug=Rn.11351 /len=8582		Adenomatous polyps coli protein (APC protein).
D42116	2025	BAA225 48	2026	X05309	2027	P17927	2028	36	512 antigen	D42115	D42116 Rattus norvegicus mRNA for 512 antigen, clone 17, partial cds		

Table 2.

D42116	2029	BAA225 48	2030	X05309	2031	P17927	2032	36	512 antigen	D42115	D42116 Rattus norvegicus mRNA for 512 antigen, clone 17, partial cds
D42137	2033	BAA077 08	2034	NIM_0011 54	2035	P08758	2036	91	Annexin		D42137exon RATAV11 Rat annexin V gene, exon13
D44481	2037	BAA079 24	2038	BC008506	2039	P46108	2040	92	CRK-II		D44481 RATCRKII Rat mRNA for CRK-II, complete cds
D45249	2041	BAA082 06	2042	NIM_0062 63	2043	Q06323	2044	85	Rat mRNA for proteasome activator rPA28 subunit alpha, complete cds		D45249 RATPRPA28B Rat mRNA for proteasome activator rPA28 subunit alpha, complete cds
D45249	2045	BAA082 06	2046	NIM_0062 63	2047	Q06323	2048	85	Rat mRNA for proteasome activator rPA28 subunit alpha, complete cds		D45249 RATPRPA28B Rat mRNA for proteasome activator rPA28 subunit alpha, complete cds
D45252	2049	P48450	2050	NIM_0023 40	2051	P48449	2052	82	oxidosqualene lanosterol cyclase	E12275	D45252 RAT23OLC Rat mRNA for 2,3-oxidosqualene:lanosterol cyclase, complete cds
											<sup>11</sup> Lanosterol synthase (EC 5.4.99.7) (Oxidosqualene lanosterol cyclase)(2,3-epoxysqualene lanosterol cyclase) (OSC). <sup>a</sup>

Table 2.

D45252	2063	P48450	2054	NM_002340	2055	P48449	2056	82	2,3-oxidosqualene:lanosterol cyclase		D45252 RAT3OLC Rat mRNA for 2,3-oxidosqualene:lanosterol cyclase, complete cds			<sup>11</sup> Lanosterol synthase (EC 5.4.99.7) (Oxidosqualene:lanosterol cyclase)(2,3-epoxysqualene:lanosterol cyclase) (OSC)."
D45254	2057	P20694	2058	NM_003418	2059	P20694	2060	91	Cellular Nucleic Acid Binding Protein		D45254 RATCNABP Rat mRNA for cellular nucleic acid binding protein (CNBP), complete cds	"CYTOPLAS MIC, ALSO PRESENT IN ENDOPLAS MIC RETICULUM"		Cellular nucleic acid binding protein (CNBP).
D45254	2061	P20694	2062	NM_003418	2063	P20694	2064	91	Cellular Nucleic Acid Binding Protein		D45254 RATCNABP Rat mRNA for cellular nucleic acid binding protein (CNBP), complete cds	"CYTOPLAS MIC, ALSO PRESENT IN ENDOPLAS MIC RETICULUM"		Cellular nucleic acid binding protein (CNBP).
D45255	2065	BAA08213	2066	XM_046272		XP_046272		90	GD3 synthase, complete cds		D45255 Rattus sp. mRNA for GD3 synthase, complete cds			
D45920	2067	BAA08351	2068	D42108	2069	NP_006217	2070	89.8	Rat mRNA for 130kDa-Ins(1,4,5)P3 binding protein, complete cds	A1072447	D45920 Rat mRNA for 130kDa-Ins(1,4,5)P3 binding protein, complete cds /cds=(466,3756) /gb=D45920 /gi=1183843 /ug=Rn.10684 /len=5233			
D45920	2071	BAA08351	2072	D42108	2073	NP_006217	2074	89.8	130kDa-Ins(1,4,5)P3 binding protein		D45920 Rat mRNA for 130kDa-Ins(1,4,5)P3 binding protein, complete cds /cds=(466,3756) /gb=D45920 /gi=1183843 /ug=Rn.10684 /len=5233			



Table 2.

D45920	2075	BAA083 51	2078	D42108	2077	NP_006 217	2078	89.8	130kDa- Ins(1,4,5)P3 binding protein (phospholipase C)	E12159	D45920 Rat mRNA for 130kDa-Ins(1,4,5)P3 binding protein, complete cds /cds=(466,3756) /gb=D45920 /gi=1183843 /ug=Rn.10684 /len=5233		
D45920	2079	BAA083 51	2080	D42108	2081	NP_006 217	2082	89.8	130kDa- Ins(1,4,5)P3 binding protein		D45920 Rat mRNA for 130kDa-Ins(1,4,5)P3 binding protein, complete cds /cds=(466,3756) /gb=D45920 /gi=1183843 /ug=Rn.10684 /len=5233		
D49363	2083	BAA083 59	2084	AY028764	2085	AAK019 39	2086	87	perchloric acid soluble protein		D49363 RATPSP1 Rat mRNA for perchloric acid soluble protein, complete cds		
D49395	2087	BAA083 88	2088	NM_0008 69	2089	P46098	2080	82	Serotonin 5- HT3 receptor		D49395 RAT5HT3RB Rat mRNA for serotonin 5-HT3 receptor, complete cds		
D49448	2091	BAA084 35	2092	U31659	2093	P49848	2084	76	TFIID subunit p80 (general transcription factor)	U70270	D49448 RATTFIIDSP Rat mRNA for TFIID subunit p80, complete cds		
D49653	2095	P50596	2096	U18915	2097	P41159	2098	85.22	Obesity (murine homolog, leptin)		D49653 RATOBESE Rat mRNA for obese(leptin), complete cds	Secreted .	Leptin precursor (Obesity factor).
D49708	2099	Q15815	2100	BC000451	2101	Q15815	2102	92.3	RNA binding protein (transformer-2- like)	AA851749	D49708 Rattus norvegicus mRNA for RNA binding protein (transformer-2-like), complete cds /cds=(135,1001) /gb=D49708 /gi=1255682 /ug=Rn.8538 /len=1978	Nuclear.	Arginine/serine- rich splicing factor 10 (Transformer-2- beta) (HTRA2- beta) (Transformer 2 protein homolog) (Silica- induced protein 41)(RA301).

Table 2.

D49708	2103	Q15815	2104	BC000451	2105	Q15815	2106	92.3	Rattus norvegicus mRNA for RNA binding protein (transformer-2-like), complete cds	AI231164	D49708 Rattus norvegicus mRNA for RNA binding protein (transformer-2-like), complete cds /cds=(135,1001) /gb=D49708 /lg=1255682 /ug=Rn.8538 /len=1978	Nuclear.	Arginine/serine-rich factor 10 (Transformer-2-beta) (Transformer 2 protein homolog) (Silica-induced protein 41)(RA301).
D49785	2107	Q63798	2108	U07358	2109	Q12852	2110	92.52	Protein kinase (MUK)		D49785 RATPK Rattus norvegicus mRNA for protein kinase (MUK), complete cds	Cytoplasmic and membrane-associated.	Mitogen-activated protein kinase kinase 12 (EC 2.7.1.37)(MAPK-upstream kinase) (MUK).
D49847	2111	P28354	2112	BC000831	2113	P28354	2114	93.36	Rat mRNA for Ash-e, complete cds		D49847 Rat mRNA for Ash-e, complete cds /cds=(144,323) /gb=D49847 /lg=814860 /ug=Rn.3360 /len=1739		Growth factor receptor-bound protein 2 (GRB2 adapter protein)(SH2/SH3 adapter GRB2) (ASH protein).
D50093	2115	BAA08790	2116	AY008282	2117	P04158	2118	59	Prion protein		D50093 Rat DNA for prion protein /cds=(10,774) /gb=D50093 /lg=1772326 /ug=Rn.3938 /len=1997		

Table 2.

D50436	2119	P24483	2120	M18003	2121	P10109	2122	83.99	adrenodoxin	D50436 Rat mRNA for adrenodoxin, complete cds /cds=(64,630) /gb=D50436 /gi=801871 /ug=Rn.6946 /len=838	Mitochondrial matrix	"Adrenodoxin, precursor (Adrenal ferredoxin)." "NADPH:adrenodoxin oxidoreductase, mitochondrial precursor (EC 1.18.1.2) (Adrenodoxin reductase) (AR) (Ferredoxin-NADP(+)-reductase)." "
D63761	2123	P56522	2124	J03826	2125	P22570	2126	87.04	Adrenodoxin reductase	D63761 Rattus norvegicus mRNA for adrenodoxin reductase, complete cds /cds=(22,1506) /gb=D63761 /gi=2865453 /ug=Rn.10860 /len=1786	Mitochondrial matrix	"NADPH:adrenodoxin oxidoreductase, mitochondrial precursor (EC 1.18.1.2) (Adrenodoxin reductase) (AR) (Ferredoxin-NADP(+)-reductase)." "
D63834	2127	P53987	2128	L31801	2129	P53985	2130	88.03	Solute carrier 16 (monocarboxylic acid transporter), member 1	D63834 Rat MCT1 mRNA for monocarboxylate transporter, complete cds /cds=(205,1689) /gb=D63834 /gi=1199781 /ug=Rn.6085 /len=3285	Integral membrane protein. Plasma membrane.	Monocarboxylate transporter 1 (MCT 1).
D63834	2131	P53987	2132	L31801	2133	P53985	2134	88.03	Solute carrier 16 (monocarboxylic acid transporter), member 1	D63834 Rat MCT1 mRNA for monocarboxylate transporter, complete cds /cds=(205,1689) /gb=D63834 /gi=1199781 /ug=Rn.6085 /len=3285	Integral membrane protein. Plasma membrane.	Monocarboxylate transporter 1 (MCT 1).
D63886	2135	BAA22223	2136	NM_005941	2137	P51512	2138	90	MT3-MMP-del	D63886 Rattus sp. mRNA for MT3-MMP-del, complete cds		
D64045	2139	Q63787	2140	XM_043865	2141	XP_043865	2142	87	phosphatidylinositol 3-kinase p85 alpha subunit	D64045 RATPI3KA Rat mRNA for phosphatidylinositol 3-kinase p85 alpha subunit, complete cds		Phosphatidylinositol 3-kinase regulatory alpha subunit (PI3-kinase p85-alpha subunit) (PtdIns-3-kinase p85-alpha) (PI3K).

Table 2.

D64046	2143	Q63788	2144	X80907	2145	O00459	2146	88.28	phosphatidylinositol 3-kinase p85 beta subunit	D64046 Rat mRNA for phosphatidylinositol 3-kinase p85 beta subunit, complete cds /cds=(0,2168) /gb=D64046 /gi=1246389 /ug=Rn.22497 /len=2169	Phosphatidylinositol 3-kinase regulatory beta subunit (PI3-kinase p85-beta subunit) (PtdIne-3-kinase p85-beta).
D64050	2147	BAA19530	2148	U77917	2149	NP_002840	2150	88.72	tyrosine phosphatase CBPTP	D64050 Rat mRNA for tyrosine phosphatase CBPTP, complete cds /cds=(165,1772) /gb=D64050 /gi=1217597 /ug=Rn.6277 /len=2881	
D78018	2151	P09414	2152	XM_046826		XP_048826		76	Nuclear Factor 1A	D78018 Rat mRNA for NF1-A2, complete cds /cds=(150,1613) /gb=D78018 /gi=1041033 /ug=Rn.10550 /len=2129	Nuclear factor 1 A-type (Nuclear factor 1A) (NF1-A) (NF1-A) (CCAAT-box binding transcription factor) (CTF) (TGGCA-binding protein).
D78303	2153	BAA23885	2154	BF788521	2155	Q15032	2156	98.32	YT521 mRNA for RNA splicing-related protein	D78303 Rattus norvegicus YT521 mRNA for RNA splicing-related protein, complete cds /cds=(316,2454) /gb=D78303 /gi=26966810 /ug=Rn.2155 /len=3206	
D78308	2157	P18418	2158	AA654394	2159	NP_004334	2160	93.14	calreticulin	D78308 Rat mRNA for calreticulin, complete cds /cds=(15,1265) /gb=D78308 /gi=1089798 /ug=Rn.974 /len=1816	Calreticulin precursor (CRP55) (Calregulin) (HACBP) (ERp60) (CALBP) (Caliculin-binding protein 3) (CABP3).

Table 2.

D78308	2161	P18418	2162	AA654394	2163	NP_004334	2164	93.14	calreticulin		D78308 Rat mRNA for calreticulin, complete cds /cds=(15,1265) /gb=D78308 /gi=1089798 /ug=Rn.974 /len=1816	Endoplasmic reticulum lumen.	Calreticulin precursor (CRP55) (Calregulin) (HACBP) (ERp80) (CALBP)(Caldu m-binding protein 3) (CABP3).
D78588	2165	O08560	2166	U51477	2167	Q13574	2168	89.13	Diacylglycerol kinase		D78588 Rat mRNA for diacylglycerol kinase, complete cds /cds=(180,2869) /gb=D78588 /gi=1808781 /ug=Rn.11208 /len=3580	Nuclear.	"Diacylglycerol kinase, zeta (EC 2.7.1.107) (Dlyceride kinase) (DGK-zeta) (DAG kinase zeta) (DGK-IV) (104 kDa diacylglycerol kinase)."
D78588	2169	O08560	2170	U51477	2171	Q13574	2172	89.13	Diacylglycerol kinase		D78588 Rat mRNA for diacylglycerol kinase, complete cds /cds=(180,2869) /gb=D78588 /gi=1908781 /ug=Rn.11208 /len=3560	Nuclear.	"Diacylglycerol kinase, zeta (EC 2.7.1.107) (Dlyceride kinase) (DGK-zeta) (DAG kinase zeta) (DGK-IV) (104 kDa diacylglycerol kinase)."
D78613	2173	BAA11433	2174	XM_005781		XP_005781		80	protein tyrosine phosphatase epsilon M		D78613 RATPTPES Rat mRNA for protein tyrosine phosphatase epsilon M, partial cds		
D82074	2175	BAA11535	2176	XM_002573	2177	XP_002573	2178	85	BHF-1		D82074 RATBHF1MA Rattus sp. mRNA for BHF-1, complete cds		

Table 2.

D82928	2179	P70500	2180	AF014807	2181	O14735	2182	95	Rat mRNA for phosphatidylinositol synthase, complete cds /gb=D82928 /gi=1620878 /ug=Rn.10598 /len=1821	INTEGRAL MEMBRANE PROTEIN. LOCATED ON THE CYTOPLASMIC ASPECT OF THE ENDOPLASMIC RETICULUM AND THE GOLGI; ALSO DETECTED IN PLASMA MEMBRANE	CDP-diacylglycerol-inositol 3-phosphatidyltransferase (EC 2.7.8.11)(Phosphatidylinositol synthase) (PtdIns synthase).
D82928	2183	P70500	2184	AF014807	2185	O14735	2186	95	Rat mRNA for phosphatidylinositol synthase, complete cds /gb=D82928 /gi=1620878 /ug=Rn.10598 /len=1821	INTEGRAL MEMBRANE PROTEIN. LOCATED ON THE CYTOPLASMIC ASPECT OF THE ENDOPLASMIC RETICULUM AND THE GOLGI; ALSO DETECTED IN PLASMA MEMBRANE	CDP-diacylglycerol-inositol 3-phosphatidyltransferase (EC 2.7.8.11)(Phosphatidylinositol synthase) (PtdIns synthase).
D83538	2187	BAA19614	2188	AK024034	2189	P42356	2190	93.91	Phosphatidylinositol 4-kinase, complete cds /gb=D83538 /gi=1339885 /ug=Rn.11015 /len=6657	INTEGRAL MEMBRANE PROTEIN. LOCATED ON THE CYTOPLASMIC ASPECT OF THE ENDOPLASMIC RETICULUM AND THE GOLGI; ALSO DETECTED IN PLASMA MEMBRANE	CDP-diacylglycerol-inositol 3-phosphatidyltransferase (EC 2.7.8.11)(Phosphatidylinositol synthase) (PtdIns synthase).

Table 2.

D83538	2191	BAA186 14	2192	AK024034	2193	P42356	2194	93.91	Phosphatidylinositol 4-kinase	D83538 Rat mRNA for 230kDa phosphatidylinositol 4-kinase, complete cds /cds=(391,6516) /gb=D83538 /gi=1339965 /ug=Rn.11015 /len=6857		
D83538	2195	BAA186 14	2196	AK024034	2197	P42356	2198	93.91	Phosphatidylinositol 4-kinase	D83538 Rat mRNA for 230kDa phosphatidylinositol 4-kinase, complete cds /cds=(391,6516) /gb=D83538 /gi=1339965 /ug=Rn.11015 /len=6857		
D83538	2199	BAA186 14	2200	AK024034	2201	P42356	2202	93.91	Phosphatidylinositol 4-kinase	D83538 Rat mRNA for 230kDa phosphatidylinositol 4-kinase, complete cds /cds=(391,6516) /gb=D83538 /gi=1339965 /ug=Rn.11015 /len=6857		
D83948	2203	P70501	2204	AK000962	2205	g146916 7	2206	93.27	S1-1 protein from liver	D83948mRNA Rat adult liver mRNA for S1-1 protein, complete cds /cds=UNKNOWN /gb=D83948 /gi=1865639 /ug=Rn.8822 /len=3123	Nuclear.	RNA-binding protein 10 (RNA binding motif protein 10) (S1-1 protein).
D84346	2207	P55161	2208	AB011159	2209	Q8Y2A7	2210	98.15	NCK-associated protein 1	D84346 RATNAP1P Rattus norvegicus mRNA for Nap1 protein, partial cds		NCK-associated protein 1 (NAP1) (p125Nap1) (Membrane-associated protein in HEM-2).
D84418	2211	P52925	2212	Z17240	2213	P26583	2214	91.27	High mobility group protein 2	D84418 Rat mRNA for chromosomal protein HMG2, complete cds /cds=(74,706) /gb=D84418 /gi=1304192 /ug=Rn.2874 /len=1072	Nuclear.	High mobility group protein 2 (HMG-2).
D84667	2215	BAA189 69	2216	AI205643	2217	AAC511 56	2218	92.91	Phosphatidylinositol 4-kinase	D84667 Rattus norvegicus mRNA for phosphatidylinositol 4-kinase, complete cds		
D85183	2219	BAA127 34	2220	NP_004639		NP_004639	2221	61	SHPS-1	D85183 Rattus norvegicus mRNA for SHPS-1, complete cds		

Table 2.

D85189	2222	O35547	2223	NM_022977	2224	O60488	2225	91.08	Rattus norvegicus mRNA for Acyl-CoA synthetase, complete cds	D85189 Rattus norvegicus mRNA for Acyl-CoA synthetase, complete cds /cds=(185,2197) /gb=D85189 /gi=2392022 /ug=Rn.2366 /len=4862	Long-chain-fatty-acid-CoA ligase 4 (EC 6.2.1.3) (Long-chain acyl-CoA synthetase 4) (LACS 4).
D85189	2226	O35547	2227	NM_022977	2228	O60488	2229	91.08	Acyl-CoA synthetase	D85189 Rattus norvegicus mRNA for Acyl-CoA synthetase, complete cds /cds=(185,2197) /gb=D85189 /gi=2392022 /ug=Rn.2366 /len=4862	Long-chain-fatty-acid-CoA ligase 4 (EC 6.2.1.3) (Long-chain acyl-CoA synthetase 4) (LACS 4).
D86297	2230	Q63147	2231	NM_001685	2232	P21283	2233	95	erythroid-specific delta-aminolevulinat e synthase	D86297 Rat mRNA for rat erythroid-specific delta-aminolevulinat e synthase (rat ALAS-E), complete cds /cds=(15,1778) /gb=D86297 /gi=1407567 /ug=Rn.7069 /len=1899	Mitochondrial "5-aminolevulinic acid synthase, erythroid-specific, mitochondrial precursor (EC 2.3.1.37) (Delta-aminolevulinat e synthase) (Delta-ALAS-E)." (ALAS-E).



Table 2.

D86373	2234	O70536	2235	XM_0311118	XP_031118	85	acyl-coenzyme A:cholesterol acyltransferase	D86373 Rattus norvegicus mRNA for acyl-coenzyme A:cholesterol acyltransferase, complete cds /cds=(91,1728) /gb=D86373 /gi=3036904 /ug=Rn.13213 /len=1750	Integral membrane protein. Endoplasmic reticulum.	Sterol O-acyltransferase 1 (EC 2.3.1.26) (Cholesterol acyltransferase 1) (Acyl coenzyme A:cholesterol acyltransferase 1) (ACAT-1).
D86557	2236	BAA19880	2237	NM_020439	NP_065172	98	Protein Kinase	D86557 Rattus norvegicus mRNA for Protein Kinase, partial cds		
D86557	2240	BAA19880	2241	NM_020439	NP_065172	98	Protein Kinase	D86557 Rattus norvegicus mRNA for Protein Kinase, partial cds		
D86642	2244	P97534	2245	AF322070	Q16845	98.47	FK506 binding protein 1b (12.6 kDa)	D86642 Rattus norvegicus mRNA for FK506-binding protein 12.6, complete cds		12.6 kDa FK506-binding protein (FKBP-12.6) (Peptidyl-prolyl cis-trans isomerase) (EC 5.2.1.8) (PPIase) (Rotamase) (Immunophilin FKBP12.6).
D86711	2248	No Rat Protein Found.		AL117662	XP_052908	92.16	Homo sapiens DKFZF586K0524 protein	D86711 D86711 Rattus norvegicus cDNA /gb=D86711 /gi=1549215 /ug=Rn.4240 /len=984		

Table 2.

D87240	2250	O35096	2251	AJ295747	2252	Q16875	2253	94.86	Rattus norvegicus RB2K1 mRNA for fructose-6-phosphate 2-kinase/fructose-2,6-bisphosphatase 3 (GPF-2-K/Fut-2,6-P2ASE brain-type isozyme) (RB2K) [Includes: 6-phosphofructo-2-kinase (EC 2.7.1.105); Fructose-2,6-bisphosphatase (EC 3.1.3.48)]. <sup>a</sup>
D87991	2254	BAA135 27	2255	NM_0058 27	2256	NP_005 818	2257	84	D87991 House rat; black rat; ship rat mRNA for UDP-galactose transporter related isozyme 1, complete cds
D87991	2258	BAA135 27	2259	NM_0058 27	2260	NP_005 818	2261	84	D87991 House rat; black rat; ship rat mRNA for UDP-galactose transporter related isozyme 1, complete cds
D87991	2262	BAA135 27	2263	NM_0058 27	2264	NP_005 818	2265	84	D87991 House rat; black rat; ship rat mRNA for UDP-galactose transporter related isozyme 1, complete cds

Table 2.

D87991	2266	BAA135 27	2267	NM_0058 27	2268	NP_005 818	2269	84	UDP- galactose transporter related isozyme 1, complete cds	D87991 House rat; black rat; ship rat mRNA for UDP-galactose transporter related isozyme 1, complete cds		
D88250	2270	JC6554	2271	J04080	2272	Q8UCV3	2273	76	Rattus norvegicus mRNA for serine protease, complete cds	D88250 Rattus norvegicus mRNA for serine protease, complete cds /cds=(246,2330) /gb=D88250 /gi=3080541 /ug=Rn.4037 /len=2908		
D88250	2274	BAA257 97	2275	XM_00684 1	XP_006 641			76	ESTs, Weakly similar to JC6554 probable serine protease [R.norvegicus]	D88250 Rattus norvegicus mRNA for serine protease, complete cds /cds=(246,2330) /gb=D88250 /gi=3080541 /ug=Rn.4037 /len=2908		
D88534	2276	BAA136 37	2277	NM_0009 36	2278	P16233	2279	78	pancreatic lipase	D88534 Rattus norvegicus mRNA for pancreatic lipase, partial cds		
D88672	2280	P70498	2281	AF038441	2282	O14939	2283	88.04	phospholipase D	D88672 Rat mRNA for phospholipase D, complete cds /cds=(336,3137) /gb=D88672 /gi=2077942 /ug=Rn.9798 /len=4562	Membrane- associated.	Phospholipase D2 (EC 3.1.4.4) (PLD 2) (Choline phosphatase 2)(Phosphatidyl choline- hydrolyzing phospholipase D2) (PLD1C) (rPLD2).
D88890	2284	BAA196 26	2285	XM_00129 6	XP_001 296			95	Acyl-CoA hydrolase	D88890 Rat mRNA for acyl-CoA hydrolase, complete cds /cds=(207,1223) /gb=D88890 /gi=1944427 /ug=Rn.6024 /len=1523		

Table 2.

D89069	2286	P47727	2287	J04056	2288	P16152	2289	90.34	Inducible carbonyl reductase	D89069 Rattus norvegicus mRNA for inducible carbonyl reductase, complete cds	Cytoplasmic.	Carbonyl reductase [NADPH] 1 (EC 1.1.1.184) (NADPH-dependent carbonyl reductase 1).
D89340	2280	O55086	2281	AK021449	2292	Q8NY33	2293	89.98	Rattus norvegicus mRNA for dipeptidyl peptidase III, complete cds	D89340 Rattus norvegicus mRNA for dipeptidyl peptidase, complete cds /cds=(14,2497) /gb=D89340 /gi=2832905 /ug=Rn.10902 /len=2615	Cytoplasmic.	Dipeptidyl-peptidase III (EC 3.4.14.4) (DPP III) (Dipeptidylaminopeptidase III) (Dipeptidyl arylamidase III).
D89655	2294	JC5533	2295	Z22555	2296	A48528	2297	78	CD36 antigen (collagen type I receptor, thrombospondin receptor)-like 1 (scavenger receptor class B type 1)	D89655 Rat mRNA for scavenger receptor class B, complete cds /cds=(120,1649) /gb=D89655 /gi=1752796 /ug=Rn.3142 /len=2392		
D89655	2288	JC5533	2299	Z22555	2300	A48528	2301	78	CD36 antigen (collagen type I receptor, thrombospondin receptor)-like 1 (scavenger receptor class B type 1)	D89655 Rat mRNA for scavenger receptor class B, complete cds /cds=(120,1649) /gb=D89655 /gi=1752796 /ug=Rn.3142 /len=2392		

Table 2.

D89730	2302	O35568	2303	NM_004105	2304	Q12805	2305	91	EGF-CONTAINING FIBULIN-LIKE EXTRACELLULAR MATRIX PROTEIN 1 PRECURSOR (FIBULIN-3) (T16 PROTEIN)	D89730 Rattus rattus T16 mRNA, complete cds
D89730	2306	O35568	2307	NM_004105	2308	Q12805	2309	91	EGF-CONTAINING FIBULIN-LIKE EXTRACELLULAR MATRIX PROTEIN 1 PRECURSOR (FIBULIN-3) (T16 PROTEIN)	D89730 Rattus rattus T16 mRNA, complete cds
D89730	2310	O35568	2311	NM_004105	2312	Q12805	2313	91	EGF-CONTAINING FIBULIN-LIKE EXTRACELLULAR MATRIX PROTEIN 1 PRECURSOR (FIBULIN-3) (T16 PROTEIN)	D89730 Rattus rattus T16 mRNA, complete cds

Table 2.

D89730	2314	O35568	2315	NM_004105	2316	Q12805	2317	91	EGF-CONTAINING FIBULIN-LIKE EXTRACELLULAR MATRIX PROTEIN 1 PRECURSOR (FIBULIN-3) (FIBL-3) (T16 PROTEIN)			D89730 Rattus rattus T16 mRNA, complete cds					
D89983	2318	Q83764	2319	D88674	2320	O14977	2321	95.34	antizyme inhibitor			D89983 Rattus norvegicus mRNA for antizyme inhibitor, complete cds /cds=(730,2076) /gb=D89983 /gi=2641953 /ug=Rn.6280 /len=4269					Ornithine decarboxylase antizyme inhibitor.
D90038	2322	P16970	2323	BC009712	2324	P28288	2325	93.07	peroxisomal membrane protein(PMP70)			D90038 Rat liver 70-kDa peroxisomal membrane protein(PMP70) mRNA /cds=(35,2014) /gb=D90038 /gi=220861 /ug=Rn.7024 /len=3303		Integral membrane protein. Peroxisomal.			"ATP-binding cassette, subfamily D, member 3 (70 kDa peroxisomal membrane protein) (PMP70)."
D90109	2326	P18163	2327	NM_001995	2328	P41215	2329	82	long-chain acyl-CoA synthetase	AA893242		D90109 Rat mRNA for long-chain acyl-CoA synthetase (EC 6.2.1.3) /cds=(13,2112) /gb=D90109 /gi=220717 /ug=Rn.6215 /len=3657		"MICROSOMAL, OUTER MITOCHONDRIAL MEMBRANE AND PEROXISOMAL MEMBRANE."		"Long-chain-fatty-acid-CoA ligase, liver isozyme (EC 6.2.1.3)(Long-chain acyl-CoA synthetase 2) (LACS 2)."	
D90258	2330	BAA14302	2331	NM_002788	2332	P25788	2333	98	proteasome subunit RC8			D90258 RATPSC8 Rat mRNA for proteasome subunit RC8					

Table 2.

D90401	2334	Q01205	2335	A1184508	2336	P55196	2337	95.76	Dihydrolipoamide succinyltransferase	D90401 RATAKGE2 Rat mRNA for dihydrolipoamide succinyltransferase	Mitochondrial	"Dihydrolipoamide succinyltransferase component of 2-oxoglutarate dehydrogenase complex, mitochondrial precursor (EC 2.3.1.61) (E2)(E2K)." .
D90401	2338	Q01205	2339	A1184508	2340	P55196	2341	95.76	Dihydrolipoamide succinyltransferase	D90401 RATAKGE2 Rat mRNA for dihydrolipoamide succinyltransferase	Mitochondrial	"Dihydrolipoamide succinyltransferase component of 2-oxoglutarate dehydrogenase complex, mitochondrial precursor (EC 2.3.1.61) (E2)(E2K)." .
D90404	2342	P80067	2343	AA296088	2344	S86504		96.07	Cathepsin C (dipeptidyl peptidase I)	D90404 RATCATC Rat mRNA for cathepsin C	Lysosomal	Dipeptidyl-peptidase I precursor (EC 3.4.14.1) (DPP-I) (DPP1)(Cathepsin C) (Cathepsin J) (Dipeptidyl transferase).

Table 2.

D90404	2345	P80067	2346	AA296068	2347	S66504	96.07	Cathepsin C (dipeptidyl peptidase I)	D90404 RATCATC Rat mRNA for cathepsin C	Lysosomal.	Dipeptidyl- peptidase I precursor (EC 3.4.14.1) (DPP- I) (DPPII)(Cathepsin C) (Cathepsin J) (Dipeptidyl transferase).
E00717	2348	CAA25 153	2349	NM_0004 99	2350	P04798	79	P-450 from Rat Liver	E00717UTR#1 cDNA encoding cytochrome P-450 from Rat Liver		
E00898	2352	No Rat Protein Found.		X74818	2353	CAA528 17	86	Cancer specific cDNA	E00898cDNA Cancer specific cDNA		
E01415	2355	NP_112 416	2356	NM_0008 48	2357	P28161	84	Rattus norvegicus glutathione S- transferase, mu type 3	E01415cDNA encoding rat glutathione S transferase		
E01534	2359	NP_058 847	2360	NM_0010 18	2361	P11174	69	ribosomal protein S15	E01534cDNA sequence expressed especially in rat insulinoma		
E03358	2363	NP_058 975	2364	NM_0027 87	2365	P25787	99	proteasome	E03358cDNA encoding rat polyfunctional protease component C3		
E03358	2367	NP_058 975	2368	NM_0027 87	2369	P25787	99	proteasome	E03358cDNA encoding rat polyfunctional protease component C3		
E03428	2371	CAA42 210	2372	XM_03112 1	2373	XP_031 121	75	peptidylglycin- alpha- amidating monooxygenase	E03428cDNA sequence encoding rat peptidylglycin-alpha-amidating monooxygenase		
E06822	2375	BAA033 17	2376	NM_0037 39	2377	P42330	70	20-alpha- hydroxysteroid dehydrogenase	E06822cDNA encoding 20 alpha-HSD(20 alpha-hydroxysteroid dehydrogenase)		



Table 2.

E12625	2379	BAA233 29	2380	NM_0067 45	2381	Q15800	2382	cDNA encoding a rat novel protein which is expressed with nerve injury; (this is RANP-1 protein)	D50559	E12625cds cDNA encoding a rat novel protein which is expressed with nerve injury
E12829	2383	BAA134 32	2384	NM_0184 48	2385	NP_060 918	2386	TIP120	D87871	E12829cds cDNA encoding novel rat protein TIP120 which is formed of complex with TBP (TATA binding protein)
J01435	2387	No human homolog found.		No Human Protein Found.				Mitochondrial genome - cytochrome oxidase		J01435cds#1 RATMTCYOS Rattus norvegicus mitochondrial cytochrome oxidase subunits I, II, III genes, ATPase subunit 6 gene, Trp-Ala-Asn-Cys- Tyr- Ser(ucn)- Asp- Lys- Gly- Arg- His- Ser(agg)- Leu(cun)-tRNAs
J01435	2388	No human homolog found.		No Human Protein Found.				Mitochondrial genome - cytochrome oxidase		J01435cds#4 RATMTCYOS Rattus norvegicus mitochondrial cytochrome oxidase subunits I, II, III genes, ATPase subunit 6 gene, Trp-Ala-Asn-Cys- Tyr- Ser(ucn)- Asp- Lys- Gly- Arg- His- Ser(agg)- Leu(cun)-tRNAs
J01436	2389	AAA989 07	2390	No human homolog found.		No Human Protein Found.		Mitochondrial cytochrome B gene		J01436cds RATMTCYBT Rattus norvegicus mitochondrial cytochrome B gene; Pro-, Thr-, Glu-tRNA genes; and URF6
J02598	2391	AAA407 46	2392	NIM_0000 40	2393	P02656	2394	apolipoprotein C-III		J02598cds RATAPOA02 Rat apolipoprotein C-III gene, complete cds

Table 2.

J02612	2395	P08430	2398	AV683870	2397	P22310	2398	88.71	UDP-glucuronosyltransferase 1 family, member 1	J02612 mRNA RATUDPGLT Rat UDP-glucuronosyltransferase mRNA, complete cds	Microsomal.	<sup>14</sup> C-UDP-glucuronosyltransferase 1-6 precursor, microsomal (EC 2.4.1.17)(UDPGT) (UGT1*6) (UGT1-06) (UGT1.6) (UGT1A6) (A1) (P-nitrophenolspecific).*
J02669	2399	P11711	2400	U22028	2401	Q16696	2402	71	Cytochrome P450 IIA1 (hepatic steroid hydroxylase IIA1) gene	J02669 Rat cytochrome P-450a (3-methylcholanthrene-inducible; with high testosterone 7-alpha activity), mRNA, complete cds /cds=(18,1497) /gb=J02669 /gi=203766 /ug=Rn.10904 /len=1687	Membrane-bound. Endoplasmic reticulum.	Cytochrome P450 2A1 (EC 1.14.14.1) (CYP1A1) (Steroid hormones 7-alpha-hydroxylase) (Testosterone 7-alpha-hydroxylase) (P450-UT-F).
J02722	2403	AAA413	2404	NM_002133	2405	P09601	2406	79	Heme oxygenase	J02722 cds RATHOXA Rat heme oxygenase gene, complete cds		

Table 2.

J02749	2407	P21775	2408	X12866	2409	P09110	2410	86	Acetyl-CoA acyltransferase, 3-oxo acyl- CoA thiolase A, peroxisomal	J02749 Rat peroxisomal 3-ketoacyl-CoA thiolase mRNA, complete cds /cds=(25,1299) /gb=J02749 /gi=205098 /ug=Rn.8913 /len=1580	Peroxisomal.	"3-ketoacyl-CoA thiolase A, peroxisomal precursor (EC 2.3.1.16) (Beta- keto thiolase A) (Acetyl-CoA acyltransferase A) (Peroxisomal 3-oxoacyl-CoA thiolase A)."
J02749	2411	P21775	2412	X12866	2413	P09110	2414	86	Acetyl-CoA acyltransferase, 3-oxo acyl- CoA thiolase A, peroxisomal	J02749 Rat peroxisomal 3-ketoacyl-CoA thiolase mRNA, complete cds /cds=(25,1299) /gb=J02749 /gi=205098 /ug=Rn.8913 /len=1580	Peroxisomal.	"3-ketoacyl-CoA thiolase A, peroxisomal precursor (EC 2.3.1.16) (Beta- keto thiolase A) (Acetyl-CoA acyltransferase A) (Peroxisomal 3-oxoacyl-CoA thiolase A)."
J02773	2415	P07483	2416	NIM_0041 02	2417	P05413	2418	85.86	Heart fatty acid binding protein	J02773 Rat low molecular weight fatty acid binding protein mRNA, complete cds /cds=(36,437) /gb=J02773 /gi=204077 /ug=Rn.4147 /len=666	Cytoplasmic.	"Fatty acid- binding protein, heart (H- FABP)."

Table 2.

J02776	2419	P06765	2420	M13140	2421	P06746	2422	89.55	DNA polymerase beta.	J02776 RATPOLB1 Rat DNA polymerase beta mRNA, complete cds	DNA polymerase beta (EC 2.7.7.7).
J02781	2423	P08503	2424	M16827	2425	P11310	2426	83.24	Acyl-Coenzyme A dehydrogenase, C-4 to C-12 straight-chain	J02781 Rat acyl coenzyme A dehydrogenase medium chain mRNA, complete cds /cds=(25,1280) /gb=J02781 /gi=202698 /ug=Rn.6302 /len=1866	"Acyl-CoA dehydrogenase, medium-chain specific, mitochondrial precursor(EC 1.3.99.3) (MCAD)."
J02827	2427	P11960	2428	M22221	2429	P12694	2430	85.54	branched chain alpha-ketoacid dehydrogenase	J02827 Rat branched chain alpha-ketoacid dehydrogenase E1-alpha subunit mRNA, 3 end /cds=(0,1325) /gb=J02827 /gi=203120 /ug=Rn.3489 /len=1639	"2-oxoisovalerate dehydrogenase alpha subunit, mitochondrial precursor(EC 1.2.4.4) (Branched-chain alpha-keto acid dehydrogenase component alpha chain (E1)) (BCKDH E1-alpha) (Fragment)."

Table 2.

J02827	2431	P11960	2432	M22221	2433	P12694	2434	88.54	branched chain alpha-ketoacid dehydrogenase	J02827 Rat branched chain alpha-ketoacid dehydrogenase E1-alpha subunit mRNA, 3 end /cde=(0,1325) /gb=J02827 /gi=203120 /ug=Rn.3489 /len=1639	Mitochondrial matrix	oxoisovalerate dehydrogenase alpha subunit, mitochondrial precursor(EC 1.2.4.4) (Branched-chain alpha-keto acid dehydrogenase component alpha chain (E1)) (BCKDH E1-alpha) (Fragment)." "
J02844	2435	P11466	2436	AF168793	2437	Q8UKG9	2438	84	Camitline octanoyltransferase	J02844 RATCOTA Rat camitline octanoyltransferase mRNA, complete cds	Peroxisomal	Peroxisomal camitline octanoyltransferase (EC 2.3.1.-) (COT).
J02862	2439	P08689	2440	M57710	2441	P17931	2442	89.81	IgE binding protein	J02862 Rat IgE binding protein mRNA, complete cds /cde=(40,828) /gb=J02862 /gi=203173 /ug=Rn.764 /len=948	Peroxisomal	Galactin-3 (Galactose-specific lectin 3) (MAC-2 antigen) (IgE-binding protein) (35 kDa lectin) (Carbohydrate binding protein 35) (CBP 35)(Laminin-binding protein) (Lectin L-29).

Table 2.

J03179	2443	P16443	2444	D28468	2445	Q10586	2446	86.35	D-binding protein	J03179 Rat D-binding protein mRNA, complete cds /cds=(367,1344) /gb=J03179 /gi=203942 /ug=Rn.11274 /len=1622	Nuclear.	D-site-binding protein (Albumin D box-binding protein) (D site albuminpromoter binding protein 1).
J03179	2447	P16443	2448	D28468	2449	Q10586	2450	86.35	D-binding protein	J03179 Rat D-binding protein mRNA, complete cds /cds=(367,1344) /gb=J03179 /gi=203942 /ug=Rn.11274 /len=1622	Nuclear.	D-site-binding protein (Albumin D box-binding protein) (D site albuminpromoter binding protein 1).
J03190	2451	P13185	2452	X56351	2453	P13186	2454	87.17	Rat 5-aminolevulinat e synthase mRNA	J03190 Rat 5-aminolevulinat e synthase mRNA, complete cds /cds=(17,1945) /gb=J03190 /gi=203067 /ug=Rn.6274 /len=2052	Mitochondrial matrix.	5-aminolevulinic acid synthase, nonspecific; mitochondrial precursor(EC 2.3.1.37) (Delta-aminolevulinat e synthase) (Delta-ALA synthetase)(ALAS-H)."

Table 2.

J03190	2455	P13195	2456	X56351	2457	P13196	2458	87.17	5-aminolevulinic acid synthase mRNA	J03190 Rat 5-aminolevulinic acid synthase mRNA, complete cds /cds=(17,1945) /gb=J03190 /gi=203067 /ug=Rn.6274 /len=2052	Mitochondrial matrix	5-aminolevulinic acid synthase, nonspecific, mitochondrial precursor (EC 2.3.1.37) (Delta-aminolevulinic synthase) (Delta-ALA synthetase) (ALAS-H)."
J03190	2459	P13195	2460	X56351	2461	P13196	2462	87.17	Rat 5-aminolevulinic acid synthase mRNA	J03190 Rat 5-aminolevulinic acid synthase mRNA, complete cds /cds=(17,1945) /gb=J03190 /gi=203067 /ug=Rn.6274 /len=2052	Mitochondrial matrix	5-aminolevulinic acid synthase, nonspecific, mitochondrial precursor (EC 2.3.1.37) (Delta-aminolevulinic synthase) (Delta-ALA synthetase) (ALAS-H)."
J03190	2463	P13195	2464	X56351	2465	P13196	2466	87.17	5-aminolevulinic acid synthase mRNA	J03190 Rat 5-aminolevulinic acid synthase mRNA, complete cds /cds=(17,1945) /gb=J03190 /gi=203067 /ug=Rn.6274 /len=2052	Mitochondrial matrix	5-aminolevulinic acid synthase, nonspecific, mitochondrial precursor (EC 2.3.1.37) (Delta-aminolevulinic synthase) (Delta-ALA synthetase) (ALAS-H)."

Table 2.

J03481	2467	P11348	2468	BC000576	2469	P09417	2470	88.33	dihydropteridine reductase	J03481 mRNA RATDTR Rat dihydropteridine reductase mRNA, complete cds	Dihydropteridine reductase (EC 1.6.99.7) (HDHPR) (Quinoldihydropteridine reductase).
J03481	2471	P11348	2472	BC000576	2473	P09417	2474	88.33	dihydropteridine reductase	J03481 mRNA RATDTR Rat dihydropteridine reductase mRNA, complete cds	Dihydropteridine reductase (EC 1.6.99.7) (HDHPR) (Quinoldihydropteridine reductase).
J03481	2476	P11348	2476	BC000576	2477	P09417	2478	88.33	dihydropteridine reductase	J03481 mRNA RATDTR Rat dihydropteridine reductase mRNA, complete cds	Dihydropteridine reductase (EC 1.6.99.7) (HDHPR) (Quinoldihydropteridine reductase).
J03481	2479	P11348	2480	BC000576	2481	P09417	2482	88.33	dihydropteridine reductase	J03481 mRNA RATDTR Rat dihydropteridine reductase mRNA, complete cds	Dihydropteridine reductase (EC 1.6.99.7) (HDHPR) (Quinoldihydropteridine reductase).
J03572	2483	P08289	2484	XM_001826	2485	XP_001826	2486	91	Alkaline phosphatase	J03572 Rat alkaline phosphatase mRNA, complete cds /cds=(152,1726) /gb=J03572 /gi=206122 /ug=Rn.6877 /len=2415	"Alkaline phosphatase, tissue-nonspecific isozyme precursor (EC 3.1.3.1) (AP-TNAP) (Liver/bone/kidney isozyme) (TNSALP)."

Attached to the membrane by a GPI-anchor.





Table 2.

J03754	2503	P11506	2504	L00620	2505	Q01814	2508	91.14	ATPase isoform 2, Na <sup>+</sup> /K <sup>+</sup> transporting, beta polypeptide 2	J03754CompleteSeq Rat plasma membrane Ca2+ ATPase-isoform 2 mRNA, complete cds /cds=UNKNOWN /gb=J03754 /gi=203048 /ug=Rn.11280 /len=7025	Integral membrane protein.	Plasma membrane calcium- transporting ATPase 2 (EC 3.6.3.8) (PMCA2)(Plasm a membrane calcium pump isoform 2) (Plasma membrane calciumATPase isoform 2).
J03773	2507	P18627	2508	J03260	2509	P19086	2510	92.16	Guanine nucleotide binding protein, alpha	J03773 Rat guanine nucleotide-binding regulatory protein alpha subunit mRNA, complete cds /cds=(14,1081) /gb=J03773 /gi=204546 /ug=Rn.10943 /len=1529	Membrane- bound.	"Guanine nucleotide- binding protein G(z), alpha subunit (G(x) alphachain) (Gz- alpha)."

Table Z.

J03867	2511	P20070	2512	M16462	2513	P00387	2514	86.48	NADH-cytochrome b-5 reductase	J03867 Rat NADH-cytochrome b-5 reductase mRNA, complete cds /cds=(33,938) /gb=J03867 /gi=203696 /ug=Rn.11644 /len=1348	THE ENZYME EXISTS IN TWO FORMS: A MEMBRANE BOUND FORM ON THE CYTOPLASMIC SIDE OF THE ENDOPLASMIC RETICULUM AND IN SOLUBLE FORM IN ERYTHROCYTES.	NADH-cytochrome b5 reductase (EC 1.6.2.2).
J03886	2515	P20689	2516	BC007753	2517	NP_149109	2518	89.53	Rat skeletal muscle myosin light chain kinase, complete cds	J03886 Rat skeletal muscle myosin light chain kinase, complete cds /cds=(59,1891) /gb=J03886 /gi=205496 /ug=Rn.9885 /len=2799	"Myosin light chain kinase, skeletal muscle (EC 2.7.1.117) (MLCK)." (MLCK).	

Table 2.

J03969	2519	P13084	2520	AL135691	2521	NIP_002 511	2522	96.32	nucleolar protein B23	J03969 Rat nucleolar protein B23 mRNA, complete cds /cds=(46,924) /gb=J03969 /gi=203081 /ug=Rn.3539 /len=1232	"NUCLEAR, GENERALLY NUCLEOLA R, BUT IS TRANSLOC ATED TO THE NUCLEOPLA SM IN CASE OF SERUM STARVATIO N OR TREATMEN T WITH ANTICANCE R DRUGS."	Nucleophosmin (NPM) (Nucleolar phosphoprotein B23) (Numa1/n)(Nuc leolar protein NO38).
J04035	2523	Q99372	2524	M17282	2525	EAHU		65	Tropoelastin	J04035 Rat tropoelastin mRNA, 3' end /cds=(0,254) /gb=J04035 /gi=207442 /ug=Rn.11300 /len=1211	EXTRACELL ULAR MATRIX OF ELASTIC FIBERS.	Elastin precursor (Tropoelastin) (Fragment).
J04063	2526	P11730	2527	BC021269	2528	XP_044 348		94.41	Rat calmodulin- dependent protein kinase II gamma subunit mRNA, complete cds	J04063 Rat calmodulin-dependent protein kinase II gamma subunit mRNA, complete cds /cds=(35,1618) /gb=J04063 /gi=206151 /ug=Rn.10961 /len=1728		Calcium/calmod ulin-dependent protein kinase type II gamma chain (EC2.7.1.123) (CaM-kinase II gamma chain) (CaM kinase II gamma subunit)(CaMK- II gamma subunit).

Table 2.

J04187	2529	P15149	2530	U22028	2531	Q16696	2532	67	Cytochrome P450 IIA2	J04187 Rat cytochrome P450 IIA2 protein (CYP2A2) mRNA, complete cds /cds=(9,1487) /gb=J04187 /gi=204901 /ug=Rn.9867 /len=2259	Membrane-bound. Endoplasmic reticulum.	Cytochrome P450 2A2 (EC 1.14.14.1) (CYP1A2) (Testosterone 15-alpha-hydroxylase) (P450-UT-4).
J04486	2533	P12843	2534	M35410	2535	P18065	2536	89	Insulin-like growth factor binding protein 2	J04486 Rat insulin growth factor-binding protein mRNA, complete cds /cds=(263,1177) /gb=J04486 /gi=203175 /ug=Rn.6813 /len=1482	Secreted.	Insulin-like growth factor binding protein 2 precursor (IGFBP-2)(IBP-2) (IGF-binding protein 2) (BRL-BP).
J04486	2537	P12843	2538	M35410	2539	P18065	2540	89	Insulin-like growth factor binding protein 2	J04486 Rat insulin growth factor-binding protein mRNA, complete cds /cds=(263,1177) /gb=J04486 /gi=203175 /ug=Rn.6813 /len=1482	Secreted.	Insulin-like growth factor binding protein 2 precursor (IGFBP-2)(IBP-2) (IGF-binding protein 2) (BRL-BP).
J04503	2541	P20650	2542	S87759	2543	P35813	2544	93.69	protein phosphatase 2c.	J04503 Rat protein phosphatase 2c mRNA, complete cds /cds=(87,1235) /gb=J04503 /gi=206312 /ug=Rn.4553 /len=1602		Protein phosphatase 2C alpha isoform (EC 3.1.3.16) (PP2C-alpha) (IA)(Protein phosphatase 1A).

Table 2.

J04503	2545	P20650	2546	S87759	2547	P35813	2548	93.69	protein phosphatase 2c.	J04503 Rat protein phosphatase 2c mRNA, complete cds /cds=(87,1236) /gb=J04503 /gi=206312 /ug=Rn.4553 /len=1602	Protein phosphatase 2C alpha isoform (EC 3.1.3.16) (PP2C-alpha) (A)(Protein phosphatase 1A).
J04791	2549	NP_036747	2550	NM_002539	2551	P11926	2552	91	Omitithine decarboxylase (ODC)	J04791 RATODCAB Rattus norvegicus omitithine decarboxylase (ODC) mRNA, complete cds	
J04792	2553	AAA66286	2554	NM_002539	2555	P11926	2556	82	Omitithine decarboxylase	J04792 Rattus norvegicus omitithine decarboxylase (ODC) gene, complete cds /cds=(0,1385) /gb=J04792 /gi=205805 /ug=Rn.874 /len=2102	
J04793	2557	AAA40800	2558	NM_000342	2559	P02730	2560	75	Rat Band 3 mRNA encoding kidney band 3 Cl-HW-3- anion exchanger	J04793 Rat Band 3 mRNA encoding kidney band 3 Cl-HW-3- anion exchanger /cds=(0,2546) /gb=J04793 /gi=203082 /ug=Rn.20529 /len=2547	
J04807	2561	NP_062003	2562	NM_000207	2563	P01308	2564	84	Rattus norvegicus Insulin 2	J04807mRNA RATINSIIA Rat Insulin II gene mRNA, 3' end	

NM\_019130

Table 2.

J04943	2565	P13084	2566	AL135691	2567	AAH125 66	2568	96.32	nucleolar protein B23.2	J04943 Rat nucleolar protein B23.2 mRNA, complete cds, clone JH2 /cds=(75,848) /gb=J04943 /gi=203077 /ug=Rn.3539 /len=1164	"NUCLEAR, GENERALLY NUCLEOLA R, BUT IS TRANSLOC ATED TO THE NUCLEOLA SM IN CASE OF SERUM STARVATIO N OR TREATMEN T WITH ANTICANCE R DRUGS."	Nucleophosmin (NPM) (Nucleolar phosphoprotein B23) (Numatrin)(Nuc leolar protein NO38).
J05022	2569	P20717	2570	BC009701	2571	Q9Y2J8	2572	88.67	Peptidyl arginine deaminase, type II	J05022 Rat peptidylarginine deaminase mRNA /cds=(60,2057) /gb=J05022 /gi=205959 /ug=Rn.2642 /len=4507	Protein-arginine deaminase type II (EC 3.5.3.15) (Peptidylarginin deaminase II).	
J05029	2573	P15650	2574	M74086	2575	P28330	2576	85.01	Acyl Coenzyme A dehydrogenas e, long chain	J05029 RATACOAD Rat long chain acyl- CoA dehydrogenase (LCAD) mRNA, complete cds	Mitochondrial matrix.  "Acyl-CoA dehydrogenase, long-chain specific, mitochondrial precursor(EC 1.3.99.13) (LCAD)."	
J05031	2577	P12007	2578	AK022777	2579	P26440	2580	90.77	Rat Isovaleryl- CoA dehydrogenas e (IVD)	J05031 Rat Isovaleryl-CoA dehydrogenase (IVD) mRNA, complete cds /cds=(15,1289) /gb=J05031 /gi=204981 /ug=Rn.147 /len=2104	Mitochondrial matrix.  "Isovaleryl-CoA dehydrogenase, mitochondrial precursor (EC 1.3.99.10)(IVD)."	

Table 2.

J05031	2581	P12007	2582	AK022777	2583	P26440	2584	90.77	Rat Isovaleryl-CoA dehydrogenase (IVD)	J05031 Rat Isovaleryl-CoA dehydrogenase (IVD) mRNA, complete cds /cds=(15,1289) /gb=J05031 /gi=204981 /ug=Rn.147 /len=2104	Mitochondrial matrix.	Isovaleryl-CoA dehydrogenase, mitochondrial precursor (EC 1.3.99.10)(IVD).
J05035	2585	P24008	2586	NM_001047	2587	P18405	2588	63	Steroid 5 alpha-reductase	J05035 RAT5ALPHA Rat steroid 5 alpha-reductase mRNA, complete cds	Integral membrane protein. Mitochondrial Intracellular membrane.	3-oxo-5-alpha-steroid 4-dehydrogenase 1 (EC 1.3.99.5) (Steroid5-alpha-reductase 1) (SR type 1).
J05035	2589	P24008	2590	NM_001047	2591	P18405	2592	63	Steroid 5 alpha-reductase	J05035 RAT5ALPHA Rat steroid 5 alpha-reductase mRNA, complete cds	Integral membrane protein. Mitochondrial Intracellular membrane.	3-oxo-5-alpha-steroid 4-dehydrogenase 1 (EC 1.3.99.5) (Steroid5-alpha-reductase 1) (SR type 1).
J05035	2593	P24008	2594	NM_001047	2595	P18405	2596	63	Steroid 5 alpha-reductase	J05035 RAT5ALPHA Rat steroid 5 alpha-reductase mRNA, complete cds	Integral membrane protein. Mitochondrial Intracellular membrane.	3-oxo-5-alpha-steroid 4-dehydrogenase 1 (EC 1.3.99.5) (Steroid5-alpha-reductase 1) (SR type 1).



Table 2.

J05035	2597	P24008	2598	NM_001047	2599	P18405	2600	63	Steroid 5 alpha-reductase		J05035 RATS5ALPHA Rat steroid 5 alpha-reductase mRNA, complete cds	Integral membrane protein. Microsomal intracellular membrane.	3-oxo-5-alpha-steroid 4-dehydrogenase 1 (EC 1.3.99.5) (Steroid5-alpha-reductase 1) (SR type 1).
J05087	2601	AAA69667	2602	NM_001682	2603	P20020	2604	74	Calmodulin-sensitive plasma membrane Ca2+-transporting ATPase (PMCA3)		J05087 Rat calmodulin-sensitive plasma membrane Ca2+-transporting ATPase (PMCA3) mRNA, complete cds /cds=UNKNOWN /gb=J05087 /gi=203050 /ug=Rn.11053 /len=5084		
J05122	2605	P16257	2606	XM_040167		XP_040167		79	Benzodiazepine receptor (peripheral)	NM_012515	J05122 Rat peripheral-type benzodiazepine receptor (PKBS) mRNA, complete cds /cds=(34,543) /gb=J05122 /gi=206161 /ug=Rn.1820 /len=781	MITOCHONDRIAL; INTEGRAL MEMBRANE PROTEIN.	Peripheral-type benzodiazepine receptor (PBR) (PKBS) (Mitochondrial benzodiazepine receptor).
J05166	2607	P23347	2608	U76667	2609	AAF19583	2610	78	Anion exchanger (B3RP2)		J05166 Rat band 3 Cl-/HCO3--exchanger (B3RP2) mRNA, complete cds /cds=(200,3904) /gb=J05166 /gi=203090 /ug=Rn.9860 /len=4057	Integral membrane protein.	Anion exchange protein 2 (Non-erythroid band 3-like protein) (B3RP).
J05166	2611	P23347	2612	XM_004678		XP_004678		78	Cl-/HCO3--exchanger (B3RP2)		J05166 Rat band 3 Cl-/HCO3--exchanger (B3RP2) mRNA, complete cds /cds=(200,3904) /gb=J05166 /gi=203090 /ug=Rn.9860 /len=4057	Integral membrane protein.	Anion exchange protein 2 (Non-erythroid band 3-like protein) (B3RP).

Table 2.

J05166	2613	P23347	2614	U76667	2615	AAF195 83	2616	78	Anion exchanger (B3RP2)	J05166 Rat band 3 Cl-HCO3- exchanger (B3RP2) mRNA, complete cds /cds=(200,3904) /gb=J05166 /gi=203090 /ug=Rn.9860 /len=4057	Integral membrane protein.	Anion exchange protein 2 (Non- erythroid band 3- like protein) (B3RP).
J05166	2617	P23347	2618	XM_00467 8		XP_004 678		78	Cl-HCO3- exchanger (B3RP2)	J05166 Rat band 3 Cl-HCO3- exchanger (B3RP2) mRNA, complete cds /cds=(200,3904) /gb=J05166 /gi=203090 /ug=Rn.9860 /len=4057	Integral membrane protein.	Anion exchange protein 2 (Non- erythroid band 3- like protein) (B3RP).
J05210	2619	P16638	2620	X64330	2621	P53396	2622	90.47	ATP citrate lyase	J05210 Rat ATP citrate-lyase mRNA, complete cds /cds=(72,3374) /gb=J05210 /gi=949989 /ug=Rn.996 /len=4269	Cytoplasmic.	ATP-citrate (pro- S)-lyase (EC 4.1.3.8) (Citrate cleavage enzyme).
J05210	2623	P16638	2624	X64330	2625	P53396	2626	90.47	ATP citrate lyase	J05210 Rat ATP citrate-lyase mRNA, complete cds /cds=(72,3374) /gb=J05210 /gi=949989 /ug=Rn.996 /len=4269	Cytoplasmic.	ATP-citrate (pro- S)-lyase (EC 4.1.3.8) (Citrate cleavage enzyme).
J05405	2627	P23711	2628	D21243	2629	P30519	2630	89	Heme oxygenase-2 non-reducing isoform	J05405mRNA RATHO2 Rat heme oxygenase-2 (HO2) mRNA, complete cds	Microsomal.	Heme oxygenase 2 (EC 1.14.99.3) (HO-2).
J05405	2631	P23711	2632	D21243	2633	P30519	2634	89	Heme oxygenase-2 non-reducing isoform	J05405mRNA RATHO2 Rat heme oxygenase-2 (HO2) mRNA, complete cds	Microsomal.	Heme oxygenase 2 (EC 1.14.99.3) (HO-2).
J05470	2635	P18886	2636	M58581	2637	P23786	2638	85.95	mitochondrial carnitine palmitoyltransf erase II (CPT II)	J05470 Rat mitochondrial carnitine palmitoyltransferase II (CPT II) mRNA, complete cds /cds=(62,2038) /gb=J05470 /gi=203579 /ug=Rn.11389 /len=2296	Mitochondrial inner membrane.	"Carnitine O- palmitoyltransfer ase II, mitochondrial precursor(EC 2.3.1.21) (CPT II)." II).

Table 2.

J05510	2639	P29984	2640	D26070	2641	Q14643	2642	90.22	Rat Inositol-1,4,5-trisphosphate receptor mRNA	J05510 Rat Inositol-1,4,5-trisphosphate receptor mRNA, complete cds /cds=(329,8578) /gb=J05510 /gi=204673 /ug=Rn.2135 /len=9852	Integral membrane protein. Endoplasmic reticulum.	"Inositol 1,4,5-trisphosphate receptor type 1 (Type 1 inositol 1,4,5-trisphosphate receptor) (Type 1 InsP3 receptor) (IP3 receptor) (isoform1) (InsP3R1) (IP-3R)." Protein phosphatase inhibitor 1 (IP-1) (I-1). Protein phosphatase inhibitor 1 (IP-1) (I-1). Protein phosphatase inhibitor 1 (IP-1) (I-1). Protein phosphatase inhibitor 1 (IP-1) (I-1). Protein phosphatase inhibitor 1 (IP-1) (I-1).
J05592	2643	P19103	2644	U48707	2645	Q13522	2646	90	Phosphatase inhibitor-1 protein	J05592 Rat protein phosphatase inhibitor-1 protein mRNA, complete cds /cds=(6,521) /gb=J05592 /gi=206351 /ug=Rn.9756 /len=619		
J05592	2647	P19103	2648	U48707	2649	Q13522	2650	90	Phosphatase inhibitor-1 protein mRNA	J05592 Rat protein phosphatase inhibitor-1 protein mRNA, complete cds /cds=(6,521) /gb=J05592 /gi=206351 /ug=Rn.9756 /len=619		
J05592	2651	P19103	2652	U48707	2653	Q13522	2654	90	Phosphatase inhibitor-1 protein	J05592 Rat protein phosphatase inhibitor-1 protein mRNA, complete cds /cds=(6,521) /gb=J05592 /gi=206351 /ug=Rn.9756 /len=619		
J05592	2655	P19103	2656	U48707	2657	Q13522	2658	90	Phosphatase inhibitor-1 protein mRNA	J05592 Rat protein phosphatase inhibitor-1 protein mRNA, complete cds /cds=(6,521) /gb=J05592 /gi=206351 /ug=Rn.9756 /len=619		
J05677	2659	AAA41200	2660	NM_000907	2661	P20594	2662	80	Guanylyl cyclase A/atrial natriuretic peptide receptor (GC-A)	J05677 mRNA RATGCA Rat guanylyl cyclase A/atrial natriuretic peptide receptor (GC-A) gene, complete cds		
K00512	2663	P02688	2664	XM_040888		XP_040888			Myelin basic protein (mbp) gene mma	K00512 rat myelin basic protein (mbp) gene mma /cds=UNKNOWN /gb=K00512 /gi=205320 /ug=Rn.9672 /len=1464	Cytoplasmic side of myelin.	Myelin basic protein S (MBP S).

Table 2.

K00750	2665	AAA217 11	2666	NM_0189 47	2667	P00001	2668	91	chrome c nuclear- encoded mitochondrial gene and flanks	AI008815	K00750exon#2-3 RATCYC Rat (Sprague- Dawley) cytochrome c nuclear-encoded mitochondrial gene and flanks
K00750	2669	AAA217 11	2670	NM_0189 47	2671	P00001	2672	91	Cytochrome C, expressed in somatic tissues		K00750exon#2-3 RATCYC Rat (Sprague- Dawley) cytochrome c nuclear-encoded mitochondrial gene and flanks
K00750	2673	AAA217 11	2674	NM_0189 47	2675	P00001	2676	91	Cytochrome C, expressed in somatic tissues		K00750exon#2-3 RATCYC Rat (Sprague- Dawley) cytochrome c nuclear-encoded mitochondrial gene and flanks
K00750	2677	AAA217 11	2678	NM_0189 47	2679	P00001	2680	91	chrome c nuclear- encoded mitochondrial gene and flanks	AI008815	K00750exon#2-3 RATCYC Rat (Sprague- Dawley) cytochrome c nuclear-encoded mitochondrial gene and flanks
K00750	2681	AAA217 11	2682	NM_0189 47	2683	P00001	2684	91	Cytochrome C, expressed in somatic tissues		K00750exon#2-3 RATCYC Rat (Sprague- Dawley) cytochrome c nuclear-encoded mitochondrial gene and flanks
K00750	2685	AAA217 11	2686	NM_0189 47	2687	P00001	2688	91	Cytochrome C, expressed in somatic tissues		K00750exon#2-3 RATCYC Rat (Sprague- Dawley) cytochrome c nuclear-encoded mitochondrial gene and flanks
K00894	2689	AAA408 43	2690	NM_0040 57	2691	P29377	2692	75	Intestinal calcium binding protein		K00984mRNA RATCABP Rat intestinal calcium-binding protein (cabp) gene 2, 3 end and flank

Table 2.

K01932	2693	P04804	2694	NM_000847	2695	Q16772	2696	89.73	glutathione S-transferase Yc subunit		K01932 Rat liver glutathione S-transferase Yc subunit mRNA, complete cds /cds=(44,708) /gb=K01932 /gi=204516 /ug=Rn.10460 /len=859	Cytoplasmic.	Glutathione S-transferase Yc-1 (EC 2.5.1.18) (Chain 2) (GST Yc1)(GST class-alpha).
K02248	2697	AAA42161	2698	NM_001048	2699	NP_001039	2700	85	Somatostatin-14 gene, complete cds		K02248cds RATSOM141 Rat somatostatin-14 gene, complete cds		
K02423	2701	AAA98533	2702	XM_030823	2703	XP_030823	2704	85	myosin light chain		K02423cds RATMLC131 Rat fast myosin alkali light chain exon 1, specific for MLC1-f		
K02815	2705	SO4363		M17847	2706	P01907	2707	87.59	Rat mRNA for RT1-B-1(alpha) chain of Integral membrane protein		K02815 Rat MHC RT1-B region class II (la antigen) A-alpha glycoprotein mRNA (haplotype Rt1-u) /cds=(0,390) /gb=K02815 /gi=205407 /ug=Rn.6100 /len=681		
K03045	2708	AAB06955	2709	NM_006744	2710	P02753	2711	87	Retinol-binding protein	U63146	K03045cds RATRBP02 Rat retinol-binding protein (RBP) gene, exon 5		
K03045	2712	AAB06955	2713	NM_006744	2714	P02753	2715	85	Retinol-binding protein	U63146	K03045cds RATRBP02 Rat retinol-binding protein (RBP) gene, exon 5		
K03242	2716	P06907	2717	A1557284	2718	P01037	2719	94.35	Rat Schwann cell peripheral myelin		K03242 Rat Schwann cell peripheral myelin (P-Q) mRNA, complete cds /cds=(31,777) /gb=K03242 /gi=205323 /ug=Rn.11403 /len=1029	Type I membrane protein.	Myelin P0 protein precursor (Myelin protein zero) (Myelin peripheral protein) (MPP).
K03486	2720	P04410	2721	AK057555	2722	NP_002728	2723	94.74	protein kinase C type III		K03486 RATPKC32 Rat protein kinase C type III mRNA, 3' region		"Protein kinase C, beta type (EC 2.7.1.-) (PKC-beta) (PKC-B)".

Table 2.

L00382	2724	AAA422 89	2725	NM_0032 89	2726	P07951	2727	68	beta-tropomyosin and fibroblast tropomyosin 1	L00382cds Rat skeletal muscle beta-tropomyosin and fibroblast tropomyosin 1 gene /cds=(0.854) /gb=L00382 /gi=207496 /ug=Rn.17580 /len=855		
L01115	2728	Q03343	2729	AB007882	2730	Q43306	2731	89.66	Adenylyl cyclase 6	L01115 Rattus norvegicus adenylyl cyclase type VI mRNA, complete cds /cds=(198,3698) /gb=L01115 /gi=202712 /ug=Rn.3313 /len=6036	Integral membrane protein.	"Adenylyl cyclase, type VI (EC 4.6.1.1) (ATP pyrophosphate-lyase)(Ca(2+)-inhibitable adenylyl cyclase)."
L01793	2732	NP_112305	2733	NM_004130	2734	P46976	2735	83	Glycogenin	L01793 RATMUSGLY Rattus norvegicus glycogenin mRNA sequence		
L01793	2736	AAB81219	2737	NM_004130	2738	P46976	2739	83	Glycogenin	L01793 RATMUSGLY Rattus norvegicus glycogenin mRNA sequence		
L01793	2740	NP_112305	2741	NM_004130	2742	P46976	2743	83	Glycogenin	L01793 RATMUSGLY Rattus norvegicus glycogenin mRNA sequence		
L01793	2744	AAB81219	2745	NM_004130	2746	P46976	2747	83	Glycogenin	L01793 RATMUSGLY Rattus norvegicus glycogenin mRNA sequence		
L02315	2748	A45982		AF038852	2749	O00305	2750	90.88	Calcium channel beta 4 subunit	L02315 Rattus norvegicus cDNA sequence, complete 5' and 3' UTR s /cds=UNKNOWN /gb=L02315 /gi=203128 /ug=Rn.9863 /len=3829		
L02315	2751	A45982		AF038852	2752	O00305	2753	90.88	Calcium channel beta 4 subunit	L02315 Rattus norvegicus cDNA sequence, complete 5' and 3' UTR s /cds=UNKNOWN /gb=L02315 /gi=203128 /ug=Rn.9863 /len=3829		
L03201	2754	Q02765	2755	M80696	2756	P25774	2757	76	Cathepsin S	L03201 Rattus norvegicus cathepsin S mRNA, complete cds /cds=(27,1019) /gb=L03201 /gi=203649 /ug=Rn.11347 /len=1330	Lysosomal.	Cathepsin S precursor (EC 3.4.22.27).
L03294	2758	Q06000	2759	M15856	2760	P06858	2761	92	Lipoprotein lipase	L03294 Rattus norvegicus lipoprotein lipase mRNA, complete cds /cds=(174,1598) /gb=L03294 /gi=205214 /ug=Rn.3834 /len=3617	Attached to the membrane by a GPI-anchor.	Lipoprotein lipase precursor (EC 3.1.1.34) (LPL).

Table 2.

L03294	2762	Q06000	2763	M15856	2764	P06858	2765	92	Lipoprotein lipase	L03294 Rattus norvegicus lipoprotein lipase mRNA, complete cds /cds=(174,1598) /gb=L03294 /gi=205214 /ug=Rn.3834 /len=3817	Attached to the membrane by a GPI-anchor.	Lipoprotein lipase precursor (EC 3.1.1.34) (LPL).
L03294	2766	Q06000	2767	M15856	2768	P06858	2769	92	Lipoprotein lipase	L03294 Rattus norvegicus lipoprotein lipase mRNA, complete cds /cds=(174,1598) /gb=L03294 /gi=205214 /ug=Rn.3834 /len=3617	Attached to the membrane by a GPI-anchor.	Lipoprotein lipase precursor (EC 3.1.1.34) (LPL).
L03556	2770	P52949	2771	BC013682	2772	P20719	2773	98.1	Homeobox A5	L03556 Rat (clone RAHB2 8/10) hox1.3 protein (hox1.3) mRNA, 3' end /cds=(0,703) /gb=L03556 /gi=204643 /ug=Rn.10077 /len=985	Nuclear.	Homeobox protein Hox-A5 (Hox-1.3) (Fragment).
L03556	2774	P52949	2775	BC013682	2776	P20719	2777	98.1	Homeobox A5	L03556 Rat (clone RAHB2 8/10) hox1.3 protein (hox1.3) mRNA, 3' end /cds=(0,703) /gb=L03556 /gi=204643 /ug=Rn.10077 /len=985	Nuclear.	Homeobox protein Hox-A5 (Hox-1.3) (Fragment).
L04739	2778	AA50878	2779	M85542	2780	P20020	2781	56	plasma membrane calcium ATPase.	L04739cds RATPMCA1A Rattus norvegicus plasma membrane calcium ATPase isoform 1 gene, partial cds		
L04760	2782	P36407	2783	AF230399	2784	P36406	2785	90.54	Rat nucleotide binding protein	L04760 RATGUABIND Rat nucleotide binding protein mRNA, complete cds		GTP-binding protein ARD-1 (Fragment).
L04760	2786	P36407	2787	AF230399	2788	P36406	2789	90.54	Rat nucleotide binding protein	L04760 RATGUABIND Rat nucleotide binding protein mRNA, complete cds		GTP-binding protein ARD-1 (Fragment).
L05435	2790	Q02563	2791	BC000776	2792	NP_055664	2793	91.03	synaptic vesicle protein (SV2)	L05435 Rattus norvegicus synaptic vesicle protein (SV2) mRNA, complete cds /cds=(398,2627) /gb=L05435 /gi=207091 /ug=Rn.11264 /len=3844	SYNAPTIC VESICLE.	Synaptic vesicle protein 2 (SV2).

Table 2.

L05489	2784	Q06175	2795	M60278	2796	Q99075	2797	81	Diphtheria toxin receptor (heparin binding epidermal growth factor-like growth factor)	L05489 Rat heparin-binding EGF-like growth factor mRNA, complete cds /cds=(31,657) /gb=L05489 /gi=204289 /ug=Rn.10148 /len=1550	TYPE I MEMBRANE PROTEIN. MATURE HB (HB-EGF) EGF IS RELEASED INTO THE EXTRACELLULAR SPACE AND PROBABLY BINDS TO A RECEPTOR.	Heparin-binding EGF-like growth factor precursor (HB-EGF).
L05489	2798	Q06175	2799	M60278	2800	Q99075	2801	81	Diphtheria toxin receptor (heparin binding epidermal growth factor-like growth factor)	L05489 Rat heparin-binding EGF-like growth factor mRNA, complete cds /cds=(31,657) /gb=L05489 /gi=204289 /ug=Rn.10148 /len=1550	TYPE I MEMBRANE PROTEIN. MATURE HB (HB-EGF) EGF IS RELEASED INTO THE EXTRACELLULAR SPACE AND PROBABLY BINDS TO A RECEPTOR.	Heparin-binding EGF-like growth factor precursor (HB-EGF).
L05557	2802	AAB60703	2803	J04027	2804	P20020	2805	57	Rat plasma membrane calcium ATPase isoform 2 gene, exon n+3 and partial cds	L05557cds RATPMCA2A4 Rat plasma membrane calcium ATPase isoform 2 gene, exon n+3 and partial cds		
L05557	2806	AAB60703	2807	XM_052353	2808	XP_052353	2809	98	plasma membrane calcium ATPase	L05557cds RATPMCA2A4 Rat plasma membrane calcium ATPase isoform 2 gene, exon n+3 and partial cds		



Table 2.

L07073	2810	P53676	2811	AF092092	2812	Q9Y2T2	2813	92.58	Claithrin-associated adaptor protein homolog (p47A) mRNA	L07073 Rat clathrin-associated adaptor protein homolog (p47A) mRNA, complete cds /cds=(43,1289)/gb=L07073/gi=468378 /ug=Rn.10959/len=2146	Adapter-related protein complex 3 mu 1 subunit (Mu-adaptin 3A) (AP-3adaptor complex mu3A subunit) (Clathrin coat assembly protein AP47homolog 1) (Clathrin coat associated protein AP47 homolog 1) (Golg
L07074	2814	P53678	2815	D38293	2816	P53677	2817	88.05	clathrin-associated adaptor protein	L07074 Rat clathrin-associated adaptor protein homolog (p47B) mRNA, complete cds /cds=(31,1287)/gb=L07074/gi=468381 /ug=Rn.11007/len=3295	Adapter-related protein complex 3 mu 2 subunit (Clathrin coat assemblyprotein AP47 homolog 2) (Clathrin coat associated protein AP47 homolog2) (Golgi adaptor AP-1 47 kDa protein homolog 2) (HA1 47 kDa

COMPONENT OF THE COAT SURROUNDING THE CYTOPLASMIC FACE OF COATED VESICLES LOCATED AT THE GOLGI COMPLEX.

Table 2.

L07736	2818	P32198	2819	BC000185	2820	P50416	2821	82.27	Camitine palmitoyltransf erase 1 alpha, liver isoform	L07736 Rat camitine palmitoyltransferase I mRNA, complete cds (cds=(102,2423) /gb=L07736 /gi=284520 /ug=Rn.2856 /len=4377	Mitochondrial outer membrane.	"Camitine O- palmitoyltransfer ase 1, mitochondrial liver isoform (EC 2.3.1.21) (CPT I) (CPT1-L)."
L07825	2822	Q03386	2823	AB037729	2824	Q12967	2825	90.5	Rat guanine nucleotide dissociation stimulator	L07825 RATGNDSA Rattus rattus guanine nucleotide dissociation stimulator for a ras- related GTPase mRNA, complete cds		Rat guanine nucleotide dissociation stimulator (Ra(GEF) (Ra(GDS).
L07825	2826	Q03386	2827	AB037729	2828	Q12967	2829	90.5	Rat guanine nucleotide dissociation stimulator	L07825 RATGNDSA Rattus rattus guanine nucleotide dissociation stimulator for a ras- related GTPase mRNA, complete cds		Rat guanine nucleotide dissociation stimulator (Ra(GEF) (Ra(GDS).
L08228	2830	AAB509 28	2831	NM_0073 27	2832	Q05586	2833	90	Rattus norvegicus N- methyl-D- aspartate receptor (NMDAR1) gene, exons 1 through 22	L08228 exon#22 RATNMDAR1 Rattus norvegicus N-methyl-D-aspartate receptor (NMDAR1) gene, exons 1 through 22		Rat guanine nucleotide dissociation stimulator (Ra(GEF) (Ra(GDS).
L08490	2834	AAC42 029	2835	NM_0008 08	2836	P14867	2837	90	Rattus rattus GABA-A receptor alpha- 1 subunit gene	L08490 cds RATGABAAA Rattus rattus GABA-A receptor alpha-1 subunit gene, complete cds		

Table 2.

L08595	2838	Q07817	2839	X75918	2840	P43354	2841	93.27	nuclear receptor	L08595 Rat nuclear receptor (RNR-1) mRNA, complete cds /cds=(111,1904) /gb=L08595 /gi=310215 /ug=Rn.9839 /len=2559	Nuclear.	Orphan nuclear receptor NURR1 (NUR- related factor 1) (Regeneratingliv er nuclear receptor 1) (RNR-1) (SL- 322) (Nuclear orphan receptorHZF-3).
L08653	2842	P38438	2843	XM_003094		XP_003094		91	transforming growth factor- b type II receptor	L08653 Rattus norvegicus transforming growth factor-b type II receptor mRNA, complete cds /cds=(58,1761) /gb=L08653 /gi=207289 /ug=Rn.9954 /len=1792	Type I membrane proteins.	TGF-beta receptor type II precursor (EC 2.7.1.37) (TGFR 2) (TGF- betatype II receptor).
L08656	2844	P51514	2845	NM_003205	2846	Q99081	2847	83	Rat salivary- specific cAMP response element- binding protein alpha	L08656 Rat salivary-specific cAMP response element-binding protein alpha mRNA, complete cds /cds=(203,2326) /gb=L08656 /gi=310225 /ug=Rn.9916 /len=2535	Nuclear.	Transcription factor 12 (Transcription factor HTF-4) (E- box- bindingprotein) (Salivary- specific cAMP response element-binding proteinalpha) (SCBP alpha) (DNA-binding protein HTF4).

Table 2.

L10073	2848	P35365	2849	NM_024012	2850	NP_076917	2851	69	5-hydroxytryptamine receptor	L10073 Rattus norvegicus 5-hydroxytryptamine receptor (5HT5b) mRNA, 5' end /cds=(302,1414) /gb=L10073 /gi=310074 /ug=Rn.10572 /len=2240	Integral membrane protein.	5-hydroxytryptamine 5B receptor (5-HT-5B) (Serotonin receptor) (MR22).
L10326	2852	P04884	2853	XM_009589		XP_009589		100	GTP-binding protein alpha-subunit	L10326 Rattus norvegicus alternatively spliced GTP-binding protein alpha subunit (stimulatory) (GS-alpha) mRNA, complete cds /cds=(18,293) /gb=L10326 /gi=205609 /ug=Rn.31 /len=733		"Guanine nucleotide-binding protein G(S), alpha subunit (Adenylylating G-se-stimulating G-alpha protein)."
L10362	2854	S34961	2855	AK000592	2856	g3882191	2857	96.12	Rattus norvegicus synaptic vesicle protein 2B (SV2B) mRNA, complete cds	L10362 Rattus norvegicus synaptic vesicle protein 2B (SV2B) mRNA, complete cds /cds=(439,2490) /gb=L10362 /gi=207093 /ug=Rn.9940 /len=3660		
L10669	2858	AAA41253	2859	XM_050619		XP_050619		79	glycogen phosphorylase	L10669 RATGLYPHOB Rat glycogen phosphorylase muscle isozyme mRNA, partial cds		
L10669	2860	AAA41253	2861	XM_050619		XP_050619		79	glycogen phosphorylase	L10669 RATGLYPHOB Rat glycogen phosphorylase muscle isozyme mRNA, partial cds		
L11002	2862	AAB47753	2863	AB018299	2864	BAA34476	2865	91.41	Ankyrin binding glycoprotein-1 related mRNA sequence	L11002 Rat ankyrin binding glycoprotein-1 related mRNA sequence /cds=UNKNOWN /gb=L11002 /gi=202922 /ug=Rn.3048 /len=5822		

Table 2.

L11035	2866	No Rat Protein Found.	AF327018	2867	AAK273		Rat T-cell receptor alpha chain mRNA for RT1L haplotype	L11035 RATTCAVAS Rat T-cell receptor alpha chain mRNA for RT1L haplotype		
L11319	2868	P42667	2869	AF090315	2870	P21378	2871	90.32	signal peptidase	L11319 Rat signal peptidase mRNA, complete cds /cds=(74,913) /gb=L11319 /gi=206977 /ug=Rn.24875 /len=643
L11319	2872	P42667	2873	AF090315	2874	P21378	2875	90.32	signal peptidase	L11319 Rat signal peptidase mRNA, complete cds /cds=(74,913) /gb=L11319 /gi=206977 /ug=Rn.24875 /len=643
L11694	2876	P38652	2877	BC019920	2878	P36871	2879	89.84	Phosphoglucose mutase 1	L11694 Rattus norvegicus phosphoglucose mutase mRNA, complete cds /cds=(43,1731) /gb=L11694 /gi=393212 /ug=Rn.9870 /len=1842
L11930	2880	Q08163	2881	M88474	2882	Q01518	2883	95	Cyclase-associated protein homologue	L11930 Rattus norvegicus cyclase-associated protein homologue (MCH1) mRNA, complete cds /cds=(21,1445) /gb=L11930 /gi=310173 /ug=Rn.21389 /len=1480

Type II  
membrane  
protein.  
Microsomal.

Microsomal  
signal peptidase  
18 kDa subunit  
(EC 3.4.--)  
(SPase 18  
kDasubunit)  
(SPC18)  
(Endopeptidase  
SP18).

Type II  
membrane  
protein.  
Microsomal.

Microsomal  
signal peptidase  
18 kDa subunit  
(EC 3.4.--)  
(SPase 18  
kDasubunit)  
(SPC18)  
(Endopeptidase  
SP18).

Cytoplasmic.

Phosphoglucose  
mutase (EC  
5.4.2.2)  
(Glucose  
phosphomutase  
) (PGM).

CELL  
MEMBRANE

Adenylyl  
cyclase-  
associated  
protein 1 (CAP  
1).

Table 2.

L12025	2884	AAB807 67	2885	M24407	2886	P15151	2887	80.17	Tumor- associated glycoprotein pE4	L12025 Rattus norvegicus tumor-associated glycoprotein E4 (TagE4) mRNA, complete cds /cds=(65,1303) /gb=L12025 /gi=2506084 /ug=Rn.10677 /len=2171
L12381	2888	P16500	2889	BE514781	2890	NP_001 649	2891	86.05	ADP- ribosylation factor 2	L12381 Rattus norvegicus ADP-ribosylation factor 2 mRNA, complete cds /cds=(120,665) /gb=L12381 /gi=438863 /ug=Rn.11263 /len=1700
L12384	2892	P28437	2893	BI837414	2894	P26437	2895	95.06	ADP- ribosylation factor 5	L12384 Rattus norvegicus ADP-ribosylation factor 5 mRNA, complete cds /cds=(94,636) /gb=L12384 /gi=438869 /ug=Rn.10974 /len=1058
L13151	2896	JT0663	2897	M23379	2898	P20936	2899	96	RAS p21 protein activator	L13151cds RATGAPX Rat GTPase- activating protein (GAP) gene, complete cds
L13151	2900	JT0663	2901	M23379	2902	P20936	2903	96	RAS p21 protein activator	L13151cds RATGAPX Rat GTPase- activating protein (GAP) gene, complete cds
L13406	2904	AAA414 79	2905	NM_0012 21	2906	Q13557	2907		Calcium/calmodulin- dependent protein kinase II delta subunit	L13406 RATKINDA Rattus norvegicus calcium/calmodulin-dependent protein kinase II delta subunit mRNA, partial cds
L13406	2908	AAA414 79	2909	NM_0012 21	2910	Q13557	2911		Calcium/calmodulin- dependent protein kinase II delta subunit	L13406 RATKINDA Rattus norvegicus calcium/calmodulin-dependent protein kinase II delta subunit mRNA, partial cds

ADP-  
ribosylation  
factor 2.ADP-  
ribosylation  
factor 5.

Table 2.

L13619	2912	Q08755	2913	BC001880	2914	O15503	2915	87.97	Growth response protein (CL-6)	L13619 RATCL6A Rattus rattus Insulin-induced growth-respons protein (CL-6) mRNA, complete cds	Insulin-induced protein 1 (Insulin-induced growth response protein CL-6) (Immediate-early protein CL-6).
L13619	2916	Q08755	2917	BC001880	2918	O15503	2919	87.97	Growth response protein (CL-6)	L13619 RATCL6A Rattus rattus Insulin-induced growth-respons protein (CL-6) mRNA, complete cds	Insulin-induced protein 1 (Insulin-induced growth response protein CL-6) (Immediate-early protein CL-6).
L13619	2920	Q08755	2921	BC001880	2922	O15503	2923	87.97	Growth response protein (CL-6)	L13619 RATCL6A Rattus rattus Insulin-induced growth-respons protein (CL-6) mRNA, complete cds	Insulin-induced protein 1 (Insulin-induced growth response protein CL-6) (Immediate-early protein CL-6).

Table 2.

L13619	2924	Q08755	2925	BC001880	2926	O15503	2927	87.97	Growth response protein (CL-6)	L13619-RATCL6A Rattus rattus insulin-induced growth-response protein (CL-6) mRNA, complete cds	Insulin-induced protein 1 (Insulin-induced growth response protein CL-6) (immediate-early protein CL-6).
L14462	2928	Q06195	2929	AC005944	2930	AAC72103	2931	80	R-esp1	L14462-RATESP1A Rattus rattus R-esp1 mRNA, complete cds	"NUCLEAR, THOUGH SOME AUTHORS STATE THAT IT IS PROBABLY CYTOPLASMIC."
L14462	2932	Q08195	2933	AC005944	2934	AAC72103	2935	80	R-esp1	L14462-RATESP1A Rattus rattus R-esp1 mRNA, complete cds	"NUCLEAR, THOUGH SOME AUTHORS STATE THAT IT IS PROBABLY CYTOPLASMIC."
L15011	2936	P41237	2937	BC024148	2938	No Human Protein Found.		93.75	Rattus norvegicus neuron-specific cortactin	L15011 Rattus norvegicus neuron-specific cortactin mRNA /cds=UNKNOWN /gb=L15011 /gi=294534 /ug=Rn.9131 /len=1210	Cortactin.
L15354	2939	Q83737	2940	AL117602	2941	Q13371	2942	88.28	Phosducin-like protein	L15354-RATPHLPA Rat phosducin-like protein (PHLP) mRNA, complete cds	Phosducin-like protein (PHLP).



Table 2.

L15619	2843	P13862	2944	NIM_0013 20	2945	P13862	2948	94.29	Casein kinase II beta subunit	L15619 Rat casein kinase II beta subunit (CK2) mRNA, complete cds /cds=(113,760) /gb=L15619 /gi=415717 /ug=Rn.11095 /len=1944	Casein kinase II beta chain (CK II) (Phosvitin) (G5a).
L15619	2847	P13862	2948	NIM_0013 20	2949	P13862	2950	94.29	Casein kinase II beta subunit	L15619 Rat casein kinase II beta subunit (CK2) mRNA, complete cds /cds=(113,760) /gb=L15619 /gi=415717 /ug=Rn.11095 /len=1944	Casein kinase II beta chain (CK II) (Phosvitin) (G5a).
L16764	2951	Q07439	2952	BC002453	2953	P01842	2954	92.64	Heat shock protein 70-1	L16764 RATHSP70A Rattus norvegicus heat shock protein 70 (HSP70) mRNA, complete cds	Heat shock 70 kDa protein 1/2 (HSP70.1/2).
L17077	2955	AAA619 85		No human homolog found.		No Human Protein Found.			NGF-binding Ig rearranged H-chain mRNA, V- region, partial cds	L17077 RATIGNGFVH Rattus norvegicus NGF-binding Ig rearranged H-chain mRNA, V- region, partial cds	

Table 2.

L17127	2956	P34067	2957	BC008314	2958	P28070	2959	92	proteasome RN3 subunit	L17127 RATRN3 Rattus norvegicus proteasome RN3 subunit mRNA, complete cds	Cytoplasmic and nuclear.	Proteasome subunit beta type 4 precursor (EC 3.4.25.1) (Proteasomebeta a chain) (Macropain beta chain) (Multicatalytic endopeptidasec omplex beta chain) (Proteasome chain 3) (RN3).
L17127	2860	P34067	2961	BC008314	2962	P28070	2963	92	proteasome RN3 subunit	L17127 RATRN3 Rattus norvegicus proteasome RN3 subunit mRNA, complete cds	Cytoplasmic and nuclear.	Proteasome subunit beta type 4 precursor (EC 3.4.25.1) (Proteasomebeta a chain) (Macropain beta chain) (Multicatalytic endopeptidasec omplex beta chain) (Proteasome chain 3) (RN3).
L17318	2964	B48013	2965	No human homolog found.	P24928	2966	36	Rattus norvegicus proline-rich proteoglycan (PRPG2) mRNA, complete cds	L17318 Rattus norvegicus proline-rich proteoglycan (PRPG2) mRNA, complete cds /cds=(21,908) /gb=L17318 /gl=310198 /ug=Rn.9870 /len=1011			

Table 2.

L18948	2867	P50116	2868	X06233	2868	2970	83.06	Intracellular calcium-binding protein	L18948 Rattus norvegicus intracellular calcium-binding protein (MRP-14) mRNA, complete cds /cds=(31,372) /gb=L18948 /lg=488156 /ug=Rn.5703 /len=494	Calgranulin B (Migration Inhibitory factor-related protein 14)(MRP-14) (p14).
L19112	2871	G31014 <sub>9</sub>		U11814	2872	2973	97.74	Rat (clone R2(A3B)) heparin-binding fibroblast growth factor receptor 2 (extracellular domain) mRNA, partial cds	L19112 Rat (clone R2(B3C)) heparin-binding fibroblast growth factor receptor 2 (extracellular domain) mRNA, partial cds /cds=(0,1081) /gb=L19112 /lg=310150 /ug=Rn.12732 /len=1082	
L19180	2874	S46217	2875	U35234	2876	2877	91.74	Protein tyrosine phosphatase, receptor type, D	L19180 Rat receptor-linked protein tyrosine phosphatase (PTP-P1) mRNA, complete cds /cds=(30,4517) /gb=L19180 /lg=310201 /ug=Rn.17237 /len=5396	
L19180	2878	S46217	2879	U35234	2880	2981	91.74	Protein tyrosine phosphatase, receptor type, D	L19180 Rat receptor-linked protein tyrosine phosphatase (PTP-P1) mRNA, complete cds /cds=(30,4517) /gb=L19180 /lg=310201 /ug=Rn.17237 /len=5396	

Table 2.

L18341	2982	P80201	2983	NM_001105	2984	Q04771	2985	94	activin type I receptor	L18341 Rattus norvegicus activin type I receptor mRNA, complete cds /cds=(147,1676) /gb=L18341 /gi=435431 /ug=Rn.10692 /len=1780	Type I membrane protein.	Activin receptor type I precursor (EC 2.7.1.37) (ACTR-I)(Serine/threonine-protein kinase receptor R1) (SKR1) (TGF-Bsuperfamily receptor type I) (TSR-I).
L18699	2986	P36860	2987	M35416	2988	P11234	2989	95	Rat GTP-binding protein (ral B) mRNA, complete cds	L18699 Rat GTP-binding protein (ral B) mRNA, complete cds /cds=(64,684) /gb=L18699 /gi=310211 /ug=Rn.4586 /len=2074	Ras-related protein RAL-B.	Ras-related protein RAL-B.
L18699	2990	P36860	2991	M35416	2992	P11234	2993	95	Rat GTP-binding protein (ral B) mRNA, complete cds	L18699 Rat GTP-binding protein (ral B) mRNA, complete cds /cds=(64,684) /gb=L18699 /gi=310211 /ug=Rn.4586 /len=2074	Ras-related protein RAL-B.	Ras-related protein RAL-B.

Table 2.

L19988	2984	P17988	2995	L19999	2996	P50225	2997	74	Minoxidil sulfotransfere se	L19998 Rat minoxidil sulfotransferase mRNA, complete cds /cds=(77,952) /gb=L19998 /gi=310178 /ug=Rn.1507 /len=1227	Cytoplasmic.	Aryl sulfotransferase (EC 2.8.2.1) (Phenol sulfotransferase ) (PST- 1)(Sulfokinase) (Aryl sulfotransferase IV) (ASTIV) (Tyrosine- estersulfotransf erases) (Minoxidil sulfotransferase ).
L19988	2988	P17988	2999	L19999	3000	P50225	3001	74	Minoxidil sulfotransfere se	L19998 Rat minoxidil sulfotransferase mRNA, complete cds /cds=(77,952) /gb=L19998 /gi=310178 /ug=Rn.1507 /len=1227	Cytoplasmic.	Aryl sulfotransferase (EC 2.8.2.1) (Phenol sulfotransferase ) (PST- 1)(Sulfokinase) (Aryl sulfotransferase IV) (ASTIV) (Tyrosine- estersulfotransf erases) (Minoxidil sulfotransferase ).

Table 2.

L19998	3002	P17988	3003	L19999	3004	P50225	3005	74	Minoxidil sulfotransfere se	L19998 Rat minoxidil sulfotransferase mRNA, complete cds /cds=(77,952) /gb=L19998 /gi=310178 /ug=Rn.1507 /len=1227	Cytoplasmic.	Aryl sulfotransferase (EC 2.8.2.1) (Phenol sulfotransferase ) (PST- 1)(Sulfokinase) (Aryl sulfotransferase IV) (ASTIV) (Tyrosine- estersulfotransf erases) (Minoxidil sulfotransferase ).
L19998	3006	P17988	3007	L19999	3008	P50225	3009	74	Minoxidil sulfotransfere se	L19998 Rat minoxidil sulfotransferase mRNA, complete cds /cds=(77,952) /gb=L19998 /gi=310178 /ug=Rn.1507 /len=1227	Cytoplasmic.	Aryl sulfotransferase (EC 2.8.2.1) (Phenol sulfotransferase ) (PST- 1)(Sulfokinase) (Aryl sulfotransferase IV) (ASTIV) (Tyrosine- estersulfotransf erases) (Minoxidil sulfotransferase ).

Table 2.

L20427	3010	Q63159	3011	AK056855	3012	Q9NZJ6	3013	84.87	Coenzyme Q (ubiquinone)	NM_019187	L20427 Rattus norvegicus dihydroxypolyprenylbenzoate methyltransferase mRNA, complete cds /cds=(7,867) /gb=L20427 /gj=457371 /ug=Rn.3824 /len=1058	Mitochondrial matrix.	"Hexaprenyldihydroxybenzoate methyltransferase, mitochondrial precursor(EC 2.1.1.114) (Dihydroxyhexaprenylbenzoate methyltransferase) (3,4- dihydroxy-5- hexaprenylbenzoate methyltransferase) (DHHBmethyl"
L20822	3014	Q08851	3015	NM_003164	3016	Q13180	3017	95	syntaxin 5		L20822 Rattus norvegicus syntaxin 5 mRNA, complete cds /cds=(129,1034) /gb=L20822 /gj=348322 /ug=Rn.5782 /len=1608	ENDOPLASMIC RETICULUM- GOLGI INTERMEDIATE COMPARTMENT.	Syntaxin 5.
L20800	3018	I65309	3019	U37183	3020	Q05084	3021	91.45	Islet cell autoantigen 1, 69 kDa		L20800 Rattus norvegicus autoantigen p69 mRNA, complete cds /cds=(499,1941) /gb=L20800 /gj=437663 /ug=Rn.1379 /len=2084		
L21711	3022	AAA65445	3023	XM_039888		XP_039888		70	Galectin-5		L21711 PFALGT Rattus sp. (clone PbURF) galectin-5 mRNA, complete cds		
L21711	3024	AAA65445	3025	XM_039888		XP_039888		70	Galectin-5		L21711 PFALGT Rattus sp. (clone PbURF) galectin-5 mRNA, complete cds		

Table 2.

L22788	3026	P80020	3027	IU19869	3028	P51161	3029	82.87	14 kDa bile acid-binding protein (I-BABP) mRNA	L22788 Rattus norvegicus 14 kDa bile acid-binding protein (I-BABP) mRNA, complete cds /cds=(48,434) /gb=L22788 /gi=349080 /ug=Rn.10008 /len=498	Cytoplasmic.	Gastrotropin (GT) (ileal lipid-binding protein) (ILBP) (intestinal 15kDa protein) (I-15P) (14 kDa bile acid binding protein) (I-BABP).
L23148	3030	P41135	3031	AA689598	3032	JC5396		91.74	Inhibitor of DNA binding 1, helix-loop-helix protein (splice variation)	L23148 Rattus norvegicus Inhibitor of DNA-binding, splice variant Id1.25, complete cds /cds=(61,555) /gb=L23148 /gi=516116 /ug=Rn.2113 /len=1124	Nuclear.	DNA-binding protein inhibitor ID-1.
L23148	3033	P41135	3034	AA689598	3035	JC5396		91.74	Inhibitor of DNA binding 1, helix-loop-helix protein (splice variation)	L23148 Rattus norvegicus Inhibitor of DNA-binding, splice variant Id1.25, complete cds /cds=(61,555) /gb=L23148 /gi=516116 /ug=Rn.2113 /len=1124	Nuclear.	DNA-binding protein inhibitor ID-1.
L23219	3038	P43425	3037	BC014466	3038	O60262	3039	87.25	Guanine nucleotide binding protein (G protein), gamma 7 subunit	L23219 Rattus norvegicus G protein gamma subunit (gamma7 subunit) mRNA, complete cds /cds=(240,449) /gb=L23219 /gi=349795 /ug=Rn.11335 /len=2897		Guanine nucleotide-binding protein G(i)/G(s)/G(o) gamma-7 subunit.
L24051	3040	Q63398	3041	BG535341	3042	P02593	3043	95.54	transcription factor	L24051 Rattus norvegicus transcription factor (Olf-1) mRNA, complete cds /cds=(72,1784) /gb=L24051 /gi=398587 /ug=Rn.11257 /len=2221	Nuclear.	Transcription factor COE1 (OE-1) (O/E-1) (Olfactory neuronal transcription factor) (OLF-1).



Table 2.

L24207	3044	P04800	3045	J04813	3046	P20815	3047	85.98	Testosterone 6-beta- hydroxylase (CYP3A1)	L24207 Rattus norvegicus testosterone 6- beta-hydroxylase (CYP3A1) mRNA, complete cds /cds=(66,1574) /gb=L24207 /gi=401798 /ug=Rn.11281 /len=2015	Membrane- bound. Endoplasmic reticulum.	Cytochrome P450 3A1 (EC 1.14.14.1) (CYP11A1) (P450-PCN1).
L24207	3048	P04800	3049	J04813	3050	P20815	3051	85.98	Testosterone 6-beta- hydroxylase (CYP3A1)	L24207 Rattus norvegicus testosterone 6- beta-hydroxylase (CYP3A1) mRNA, complete cds /cds=(66,1574) /gb=L24207 /gi=401798 /ug=Rn.11281 /len=2015	Membrane- bound. Endoplasmic reticulum.	Cytochrome P450 3A1 (EC 1.14.14.1) (CYP11A1) (P450-PCN1).
L24776	3052	OKRTC B	3053	M34181	3054	P22694	3055	91	Tropomyosin non-muscle isoform NM3 (TPM-gamma) mRNA, complete cds	L24776 Rattus norvegicus tropomyosin non- muscle isoform NM3 (TPM-gamma) mRNA, complete cds /cds=(18,764) /gb=L24776 /gi=438879 /ug=Rn.24727 /len=1101		
L24776	3058	OKRTC B	3057	M34181	3058	P22694	3059	91	Tropomyosin non-muscle isoform NM3 (TPM-gamma) mRNA, complete cds	L24776 Rattus norvegicus tropomyosin non- muscle isoform NM3 (TPM-gamma) mRNA, complete cds /cds=(18,764) /gb=L24776 /gi=438879 /ug=Rn.24727 /len=1101		
L25331	3060	Q63321	3061	NIM_0003 02	3062	Q02809	3063	87	lysyl hydroxylase	L25331 Rattus norvegicus lysyl hydroxylase mRNA, complete cds /cds=(143,2328) /gb=L25331 /gi=409058 /ug=Rn.4445 /len=2987	MEMBRANE BOUND IN CISTERNAE OF ROUGH ENDOPLAS MIC RETICULUM	"Procollagen- lysine,2- oxoglutarate 5- dioxygenase 1 precursor(EC 1.14.11.4) (Lysyl hydroxylase 1) (LH1)." .
L25387	3064	AAA177 57	3065	D25328	3066	Q01813	3067	83	Phosphofructo kinase C (PFK C)	L25387 RATPHOPSHC Rat phosphofructokinase C (PFK-C) mRNA, complete cds		
L25387	3068	AAA177 57	3069	D25328	3070	Q01813	3071	83	Phosphofructo kinase C (PFK C)	L25387 RATPHOPSHC Rat phosphofructokinase C (PFK-C) mRNA, complete cds		

Table 2.

L25605	3072	P39052	3073	NM_004945	3074	P05070	3075	90	dynamain Ilaa and Ilaab	AA851887	L25605 Rat dynamain Ilaa and Ilaab mRNA, complete cds /cds=(111,2723) /gb=L25605 /g=416395 /ug=Rn.11231 /len=3483	LE-ASSOCIATE D.	Dynamain 2 (EC 3.6.1.50).
L25633	3076	P47940	3077	NM_002846	3078	Q16849	3079	27	Regulated endocrine-specific protein 18		L25633 Rattus norvegicus neuroendocrine-specific protein (RESP18) mRNA, complete cds /cds=(87,614) /gb=L25633 /g=468923 /ug=Rn.2225 /len=719	Secreted.	Regulated endocrine specific protein 18 precursor.
L25633	3080	P47940	3081	NM_002846	3082	Q16849	3083	27	Regulated endocrine-specific protein 18		L25633 Rattus norvegicus neuroendocrine-specific protein (RESP18) mRNA, complete cds /cds=(87,614) /gb=L25633 /g=468923 /ug=Rn.2225 /len=719	Secreted.	Regulated endocrine specific protein 18 precursor.
L25633	3084	P47940	3085	NM_002846	3086	Q16849	3087	27	Regulated endocrine-specific protein 18		L25633 Rattus norvegicus neuroendocrine-specific protein (RESP18) mRNA, complete cds /cds=(87,614) /gb=L25633 /g=468923 /ug=Rn.2225 /len=719	Secreted.	Regulated endocrine specific protein 18 precursor.
L25633	3088	P47940	3089	NM_002846	3080	Q16849	3091	27	Regulated endocrine-specific protein 18		L25633 Rattus norvegicus neuroendocrine-specific protein (RESP18) mRNA, complete cds /cds=(87,614) /gb=L25633 /g=468923 /ug=Rn.2225 /len=719	Secreted.	Regulated endocrine specific protein 18 precursor.
L26267	3092	Q63369	3093	A1265879	3084	XP_028204	3095	88.46	nuclear factor kappa B p105 subunit		L26267 Rattus norvegicus nuclear factor kappa B p105 subunit mRNA, 3' end /cds=(0,1568) /gb=L26267 /g=425471 /ug=Rn.2411 /len=2245	"NUCLEAR, BUT ALSO FOUND IN THE CYTOPLASM IN AN INACTIVE FORM COMPLEXED TO AN INHIBITOR (I KAPPA-B)."	Nuclear factor NF-kappa-B p105 subunit (DNA-binding factor KBF1) (EBP-1) (NF-kappa-B1 p84/NF-kappa-B1 p98) [Contains: NF-kappa-B p50 subunit] (Fragment).

Table 2.

L26268	3096	Q63073	3097	BC016759	3098	P31607	3099	95.57	BTG1; B cell translocation gene	L26268 Rattus norvegicus anti-proliferative factor (BTG1) mRNA, complete cds /cds=(0,515) /gb=L26268 /gi=1167495 /lug=Rn.1000 /len=1464	BTG1 protein (Anti-proliferative factor).
L26268	3100	Q63073	3101	BC016759	3102	P31607	3103	95.57	BTG1; B cell translocation gene	L26268 Rattus norvegicus anti-proliferative factor (BTG1) mRNA, complete cds /cds=(0,515) /gb=L26268 /gi=1167495 /lug=Rn.1000 /len=1464	BTG1 protein (Anti-proliferative factor).
L26986	3104	P40146	3105	M83533	3106	P40145	3107	91.14	Adenylyl cyclase type VIII	L26986 Rat adenylyl cyclase type VIII mRNA, complete cds /cds=(776,4522) /gb=L26986 /gi=478017 /lug=Rn.10382 /len=4601	"Adenylyl cyclase, type VIII (EC 4.6.1.1) (ATP pyrophosphate-lyase)(Ca(2+)/calmodulin activated adenylyl cyclase)." Integral membrane protein.
L27075	3108	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			ATP-citrate lyase	L27075 Rat ATP-citrate lyase mRNA, exons 1-7 /cds=UNKNOWN /gb=L27075 /gi=436002 /lug=Rn.896 /len=13553	pyrophosphate-lyase)(Ca(2+)/calmodulin activated adenylyl cyclase)." Mitogen-activated protein kinase 9 (EC 2.7.1.-) (Stress-activated protein kinase JNK2) (c-Jun N-terminal kinase 2) (SAPK-alpha) (p54-alpha).
L27112	3109	P49186	3110	L31951	3111	P45984	3112	93.85	Stress activated protein kinase alpha II	L27112 RATSAPKB Rattus norvegicus stress activated protein kinase alpha II mRNA, complete cds	Mitogen-activated protein kinase 9 (EC 2.7.1.-) (Stress-activated protein kinase JNK2) (c-Jun N-terminal kinase 2) (SAPK-alpha) (p54-alpha).

Table 2.

L27112	3113	P49186	3114	L31951	3115	P45984	3116	93.85	Stress activated protein kinase alpha II	L27112 RATSAPKB Rattus norvegicus stress activated protein kinase alpha II mRNA, complete cds	Mitogen- activated protein kinase 8 (EC 2.7.11-) (Stress- activated protein kinase JNK2) (c- Jun N-terminal kinase 2) (SAPK-alpha) (p54-alpha).
L27421	3117	P36610	3118	NM_0142 86	3119	P36610	3120	89.39	neuronal calcium sensor (NCS- 1)	L27421 Rattus norvegicus neuronal calcium sensor (NCS-1) mRNA, complete cds /cds=(0,572) /gb=L27421 /gi=498031 /ug=Rn.22392 /len=573	"POST- SYNAPTIC DENSITIES OF DENDRITES, AND IN THE PRE- SYNAPTIC NERVE TERMINAL AT NEUROMUS- CULAR JUNCTIONS."
L27487	3121	Q63118	3122	U17473	3123	Q16602	3124	87.9	Rat calcitonin receptor-like receptor (CRLR) mRNA	L27487 Rat calcitonin receptor-like receptor (CRLR) mRNA /cds=UNKNOWN /gb=L27487 /gi=440339 /ug=Rn.11202 /len=3185	Calcitonin gene- related peptide type 1 receptor precursor (CGRP type 1 receptor).
L27651	3125	AAA571 57	3126	AF210455	3127	AAD370 91	3128	86.28	Solute carrier family 22 (organic anion transporter), member 7	L27651 Rattus norvegicus liver-specific transport protein mRNA, complete cds /cds=(73,1680) /gb=L27651 /gi=529589 /ug=Rn.10009 /len=1910	

Table 2.

L27651	3129	AAA571 57	3130	AF210455	3131	AAD370 91	3132	86.28	Solute carrier family 22 (organic anion transporter), member 7	L27651 <i>Rattus norvegicus</i> liver-specific transport protein mRNA, complete cds /cds=(73,1680) /gb=L27651 /gi=529589 /ug=Rn.10008 /len=1910	Nuclear.	Nervous-system specific octamer- binding transcription factor N-OCT 3(Brain-specific homeobox/POU domain protein 2) (BRN-2 protein).
L27663	3133	P56222	3134	Z11933	3135	P20265	3136	90.9	POU domain, class 3, transcription factor 2	L27663 Rat DNA binding protein (Bm-2) mRNA sequence /cds=UNKNOWN /gb=L27663 /gi=443687 /ug=Rn.9866 /len=1814	Nuclear.	Nervous-system specific octamer- binding transcription factor N-OCT 3(Brain-specific homeobox/POU domain protein 2) (BRN-2 protein).
L27663	3137	P56222	3138	Z11933	3139	P20265	3140	90.9	POU domain, class 3, transcription factor 2	L27663 Rat DNA binding protein (Bm-2) mRNA sequence /cds=UNKNOWN /gb=L27663 /gi=443687 /ug=Rn.9866 /len=1814	Nuclear.	Nervous-system specific octamer- binding transcription factor N-OCT 3(Brain-specific homeobox/POU domain protein 2) (BRN-2 protein).
L27843	3141	NP_113 767	3142	U48296	3143	XP_034 503	3144	95.4	Protein tyrosine phosphatase 4a1	L27843 RATPRL1NP Rat tyrosine phosphatase (PRL-1) mRNA, complete cds		

Table 2.

L28801	3145	A56011	3146	U02619	3147	38414	3148	77	Rat transcription factor IIC alpha-subunit mRNA, complete cds	L28801 Rat transcription factor IIC alpha-subunit mRNA, complete cds /gb=L28801 /gi=454176 /ug=Rn.11288 /len=6878
L28801	3149	A56011	3150	U02619	3151	38414	3152	77	Rat transcription factor IIC alpha-subunit mRNA, complete cds	L28801 Rat transcription factor IIC alpha-subunit mRNA, complete cds /gb=L28801 /gi=454176 /ug=Rn.11288 /len=6878
L28801	3153	A56011	3154	U02619	3155	38414	3156	77	Rat transcription factor IIC alpha-subunit mRNA, complete cds	L28801 Rat transcription factor IIC alpha-subunit mRNA, complete cds /gb=L28801 /gi=454176 /ug=Rn.11288 /len=6878
L28801	3157	A56011	3158	U02619	3159	38414	3160	77	Rat transcription factor IIC alpha-subunit mRNA, complete cds	L28801 Rat transcription factor IIC alpha-subunit mRNA, complete cds /gb=L28801 /gi=454176 /ug=Rn.11288 /len=6878
L29281	3161	S50216	3162	M35663	3163	P19525	3164	62	Protein kinase, Interferon-inducible double stranded RNA dependent	L29281 Rattus norvegicus Initiation factor-2 kinase (eIF-2a) mRNA, complete cds /cds=(150,1691) /gb=L29281 /gi=466372 /ug=Rn.10022 /len=3808

Table 2.

Accession	Gene	Protein	Accession	Gene	Protein	Accession	Gene	Protein	Accession	Gene	Protein	Accession	Gene	Protein	Accession	Gene	Protein
L29573	RATNOREPIN	Rat NaCl-dependent norepinephrine transporter mRNA, partial cds	3165	59558		3166	P23975	3167	88	Solute carrier family 6 (neurotransmitter transporter, non-adrenalin), member 2							
L31619	Rattus rattus nicotinic acetylcholine receptor alpha 7 subunit mRNA, complete cds /gb=L31619 /gi=4688919 /ug=Rn.9698 /len=2105	Integral membrane protein.	3168	Q05941	3169	X70297	3170	3171	87.81	C holinergic receptor, nicotinic, alpha polypeptide 7 (neuronal nicotinic acetylcholine receptor alpha 7) (bungarotoxin alpha)							"Neuronal acetylcholine receptor protein, alpha-7 chain precursor."
L31621	RATNARA Rattus rattus (clone: pPCA48E) nicotinic acetylcholine receptor alpha 3 subunit mRNA, complete cds	Integral membrane protein.	3172	P04757	3173	X53559	3174	3175	88.03	Rattus norvegicus nicotinic acetylcholine receptor alpha 3 subunit mRNA, complete cds							"Neuronal acetylcholine receptor protein, alpha-3 chain precursor."
L31621	RATNARA Rattus rattus (clone: pPCA48E) nicotinic acetylcholine receptor alpha 3 subunit mRNA, complete cds	Integral membrane protein.	3176	P04757	3177	X53559	3178	3179	88.03	Rattus norvegicus nicotinic acetylcholine receptor alpha 3 subunit mRNA, complete cds							"Neuronal acetylcholine receptor protein, alpha-3 chain precursor."

Table 2.

L32591	3180	P48317	3181	M60974	3182	P24522	3183	95	gadd45	L32591 mRNA RATGADD45X Rattus norvegicus GADD45 mRNA, complete cds	Growth arrest and DNA-damage-inducible protein GADD45 alpha (DNA-damage inducible transcript 1) (DDIT1).
L32591	3184	P48317	3185	M60974	3186	P24522	3187	95	gadd45	L32591 mRNA RATGADD45X Rattus norvegicus GADD45 mRNA, complete cds	Growth arrest and DNA-damage-inducible protein GADD45 alpha (DNA-damage inducible transcript 1) (DDIT1).
L32591	3188	P48317	3189	M60974	3190	P24522	3191	95	gadd45	L32591 mRNA RATGADD45X Rattus norvegicus GADD45 mRNA, complete cds	Growth arrest and DNA-damage-inducible protein GADD45 alpha (DNA-damage inducible transcript 1) (DDIT1).
L32591	3192	P48317	3193	M60974	3194	P24522	3195	95	gadd45	L32591 mRNA RATGADD45X Rattus norvegicus GADD45 mRNA, complete cds	Growth arrest and DNA-damage-inducible protein GADD45 alpha (DNA-damage inducible transcript 1) (DDIT1).



Table 2.

L33869	3196	P13635	3197	M13698	3198	P00450	3199	88.44	Ceruloplasmin	L33869 Rat norvegicus ceruloplasmin mRNA, complete cds /cds=(15,3194) /gb=L33869 /gi=499668 /ug=Rn.8598 /len=3700	Lysosomal.	Ceruloplasmin precursor (EC 1.16.3.1) (Ferroxidase),
L34262	3200	P45479	3201	XM_029842	3202	XP_029842	3203	81	palmitoyl-protein thioesterase	L34262 Rattus norvegicus palmitoyl-protein thioesterase mRNA, complete cds /cds=(0,920) /gb=L34262 /gi=535741 /ug=Rn.1574 /len=2248	Lysosomal.	Palmitoyl-protein thioesterase 1 precursor (EC 3.1.2.22) (Palmitoyl-protein hydrolase 1).
L34821	3204	P51650	3205	L34820	3206	P51649	3207	84.34	Succinic semialdehyde dehydrogenase	L34821 Rat succinate-semialdehyde dehydrogenase (SSADH) mRNA, 3' end /cds=(0,1466) /gb=L34821 /gi=556394 /ug=Rn.10070 /len=1731	Lysosomal.	Succinate semialdehyde dehydrogenase (EC 1.2.1.24) (NAD(+)-dependent succinic semialdehyde dehydrogenase)
L35271	3208	Q63046	3209	D43968	3210	O60472	3211	96.4	AML1	L35271 Rattus norvegicus AML1 mRNA, complete cds /cds=(400,1752) /gb=L35271 /gi=528577 /ug=Rn.11201 /len=2006	Nuclear.	"Runx-related transcription factor 1 (Core-binding factor, alpha 2 subunit) (CBF-alpha 2) (Acute myeloid leukemia 1 protein) (Oncogene AML-1) (Polyomavirus enhancer binding protein 2 alpha B subunit) (PEB"

Table 2.

L35571	3212	P50480	3213	AI972048	3214	XP_047851	3215	93.26	Rattus norvegicus (clone 1.6kB) islet-2 mRNA	L35571 Rattus norvegicus (clone 1.6kB) islet-2 mRNA, complete cds /cds=(76,1158) /gb=L35571 /gi=531217 /ug=Rn.10026 /len=1298	Insulin gene enhancer protein ISL-2 (islet-2).
L35571	3216	P50480	3217	AI972048	3218	I38522	3222	93.26	Insulin related protein 2	L35571 Rattus norvegicus (clone 1.6kB) islet-2 mRNA, complete cds /cds=(76,1158) /gb=L35571 /gi=531217 /ug=Rn.10026 /len=1298	Insulin gene enhancer protein ISL-2 (islet-2).
L35921	3219	P43426	3220	NM_033258	3221	NP_150283	3222	89.05	GTP-binding protein gamma subunit	L35921 Rattus norvegicus GTP-binding protein gamma subunit (Ggamma8) mRNA, complete cds /cds=(220,432) /gb=L35921 /gi=625158 /ug=Rn.11233 /len=560	Guanine nucleotide-binding protein G(i)/G(s)/G(o) gamma-8 subunit(Gamma-9).
L36088	3223	AAC37705	3224	L17075	3225	P37023	3226	86.75	Rattus norvegicus (clone RSTK-1) serine-threonine kinase receptor type I mRNA, complete cds	L36088 Rattus norvegicus (clone RSTK-1) serine-threonine kinase receptor type I mRNA, complete cds /cds=(556,2070) /gb=L36088 /gi=609597 /ug=Rn.10631 /len=3917	
L36532	3227	AAA91821	3228	L17418	3229	AAB60694	3230	44	Rat complement regulatory protein (Crry) mRNA	L36532 Rat complement regulatory protein (Crry) mRNA, complete cds /cds=(23,1702) /gb=L36532 /gi=550510 /ug=Rn.5825 /len=1811	
L38483	3231	Q83722	3232	NM_002226	3233	Q9Y219	3234	54	Jagged 1	L38483 Rattus norvegicus jagged protein mRNA, complete cds /cds=(386,4045) /gb=L38483 /gi=1492110 /ug=Rn.11254 /len=5575	Jagged 1 precursor (Jagged1).

Table 2.

L38615	3235	P46413	3236	NM_000178	3237	P48637	3238	86	Glutathione synthetase gene	L38615 Rattus norvegicus glutathione synthetase mRNA, complete cds /cds=(44,1468) /gb=L38615 /gi=755063 /ug=Rn.1692 /len=1882	Glutathione synthetase (EC 6.3.2.3) (Glutathione synthase) (GSHsynthetase) (GSH-S).
L38615	3239	P46413	3240	NM_000178	3241	P48637	3242	86	Glutathione synthetase gene	L38615 Rattus norvegicus glutathione synthetase mRNA, complete cds /cds=(44,1468) /gb=L38615 /gi=755063 /ug=Rn.1692 /len=1882	Glutathione synthetase (EC 6.3.2.3) (Glutathione synthase) (GSHsynthetase) (GSH-S).
L38644	3243	P52298	3244	AA738059	3245	XP_017163		86.52	karyopherin beta	L38644 Rattus norvegicus karyopherin beta mRNA, complete cds /cds=(101,2728) /gb=L38644 /gi=712838 /ug=Rn.11061 /len=2891	CYTOPLASMIC AND NUCLEAR ENVELOPE. Importin beta-1 subunit (Karyopherin beta-1 subunit) (Nuclear factorP87).
L39018	3246	AAC42059	3247	AB027587	3248	XP_008249	3249	90.97	Sodium channel protein 6	L39018 Rattus norvegicus sodium channel protein 6 (SCP6) mRNA, complete cds /cds=(0,5930) /gb=L39018 /gi=828033 /ug=Rn.10073 /len=6826	
L48209	3250	P80433	3251	No human homolog found.		No Human Protein Found.			Rattus norvegicus liver cytochrome c oxidase subunit VIII (COX-VIII) mRNA, 3' end of cds	L48209 RATCOXVIII Rattus norvegicus liver cytochrome c oxidase subunit VIII (COX-VIII) mRNA, 3' end of cds	Cytochrome c oxidase polypeptide VIII-liver (EC 1.9.3.1).
M10094	3252	P15978	3253	I38874	3254	No Human Protein Found.		75	RT1 class Ib gene	M10094 Rat MHC class I truncated cell surface antigen mRNA /cds=(0,320) /gb=M10094 /gi=205412 /ug=Rn.3577 /len=628	"Class I histocompatibility antigen, Non-RT1.A alpha-1 chain precursor."

Table 2.

M10094	3255	P15978	3256	I38874	3257	I38874	75	RT1 class Ib gene	M10094 Rat MHC class I truncated cell surface antigen mRNA /cds=(0,320) /gb=M10094 /gi=205412 /ug=Rn.3577 /len=628	"Class I histocompatibility antigen, Non-RT1.A alpha-1 chain precursor."
M10934	3258	AAA42020	3259	NM_006744	3260	P02753	85	Rat retinol-binding protein (RBP) mRNA, partial cds	M10934 RATRBPA Rat retinol-binding protein (RBP) mRNA, partial cds	
M11071	3262	P15978	3263	No human homolog found.	No Human Protein Found.			Rat MHC class I cell surface antigen	M11071 Rat MHC class I cell surface antigen mRNA /cds=(0,330) /gb=M11071 /gi=205414 /ug=Rn.11168 /len=824	"Class I histocompatibility antigen, Non-RT1.A alpha-1 chain precursor."
M11596	3264	P10093	3265	M64486	3266	P01258	91.39	Rat beta-type calcitonin gene-related peptide mRNA, complete cds	M11596 Rat beta-type calcitonin gene-related peptide mRNA, complete cds /cds=(5,409) /gb=M11596 /gi=203232 /ug=Rn.10741 /len=760	Calcitonin gene-related peptide II precursor (CGRP-II) (Beta-typeCGRP).

Table 2.

M12156	3268	P04256	3269	A1339411	3270	XP_015755	3271	95.4	helix-destabilizing protein	A1235758	M12492mRNA#1 Rat type II cAMP-dependent protein kinase regulatory subunit mRNA, 3' end /cds=UNKNOWN /gb=M12492 /gi=206870 /ug=Rn.4075 /len=3108	M12156 Rat helix-destabilizing protein mRNA, complete cds /cds=(28,990) /gb=M12156 /gi=204578 /ug=Rn.1819 /len=1698	NUCLEAR SHUTTLES CONTINUOUSLY BETWEEN THE NUCLEUS AND THE CYTOPLASM ALONG WITH MRNA. COMPONENT OF RIBONUCLEOSOMES.	Heterogeneous nuclear ribonucleoprotein A1 (Helix-destabilizing protein) (Single-strand binding protein) (mRNP core protein A1)(HDP).
M12492	3272	P12369	3273	M31158	3274	P31323	3275	88.65	type II cAMP-dependent protein kinase regulatory subunit	A1235758	M12492mRNA#1 Rat type II cAMP-dependent protein kinase regulatory subunit mRNA, 3' end /cds=UNKNOWN /gb=M12492 /gi=206870 /ug=Rn.4075 /len=3108	M12156 Rat helix-destabilizing protein mRNA, complete cds /cds=(28,990) /gb=M12156 /gi=204578 /ug=Rn.1819 /len=1698	NUCLEAR SHUTTLES CONTINUOUSLY BETWEEN THE NUCLEUS AND THE CYTOPLASM ALONG WITH MRNA. COMPONENT OF RIBONUCLEOSOMES.	Heterogeneous nuclear ribonucleoprotein A1 (Helix-destabilizing protein) (Single-strand binding protein) (mRNP core protein A1)(HDP).
M12492	3276	P12369	3277	M31158	3278	P31323	3279	88.65	type II cAMP-dependent protein kinase regulatory subunit	A1235758	M12492mRNA#1 Rat type II cAMP-dependent protein kinase regulatory subunit mRNA, 3' end /cds=UNKNOWN /gb=M12492 /gi=206870 /ug=Rn.4075 /len=3108	M12156 Rat helix-destabilizing protein mRNA, complete cds /cds=(28,990) /gb=M12156 /gi=204578 /ug=Rn.1819 /len=1698	NUCLEAR SHUTTLES CONTINUOUSLY BETWEEN THE NUCLEUS AND THE CYTOPLASM ALONG WITH MRNA. COMPONENT OF RIBONUCLEOSOMES.	Heterogeneous nuclear ribonucleoprotein A1 (Helix-destabilizing protein) (Single-strand binding protein) (mRNP core protein A1)(HDP).
M12492	3280	P12369	3281	M31158	3282	P31323	3283	88.65	type II cAMP-dependent protein kinase regulatory subunit	A1235758	M12492mRNA#1 Rat type II cAMP-dependent protein kinase regulatory subunit mRNA, 3' end /cds=UNKNOWN /gb=M12492 /gi=206870 /ug=Rn.4075 /len=3108	M12156 Rat helix-destabilizing protein mRNA, complete cds /cds=(28,990) /gb=M12156 /gi=204578 /ug=Rn.1819 /len=1698	NUCLEAR SHUTTLES CONTINUOUSLY BETWEEN THE NUCLEUS AND THE CYTOPLASM ALONG WITH MRNA. COMPONENT OF RIBONUCLEOSOMES.	Heterogeneous nuclear ribonucleoprotein A1 (Helix-destabilizing protein) (Single-strand binding protein) (mRNP core protein A1)(HDP).
M12492	3284	P12369	3285	M31158	3286	P31323	3287	88.65	type II cAMP-dependent protein kinase regulatory subunit	A1235758	M12492mRNA#1 Rat type II cAMP-dependent protein kinase regulatory subunit mRNA, 3' end /cds=UNKNOWN /gb=M12492 /gi=206870 /ug=Rn.4075 /len=3108	M12156 Rat helix-destabilizing protein mRNA, complete cds /cds=(28,990) /gb=M12156 /gi=204578 /ug=Rn.1819 /len=1698	NUCLEAR SHUTTLES CONTINUOUSLY BETWEEN THE NUCLEUS AND THE CYTOPLASM ALONG WITH MRNA. COMPONENT OF RIBONUCLEOSOMES.	Heterogeneous nuclear ribonucleoprotein A1 (Helix-destabilizing protein) (Single-strand binding protein) (mRNP core protein A1)(HDP).

Table 2.

M13100	3288	No human homolog found.	No Human Protein Found.			Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#1 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	3289	No human homolog found.	No Human Protein Found.			Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#1 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	3290	No human homolog found.	No Human Protein Found.			Long interspersed repetitive DNA sequence LINE3	M13100cds#1 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	3291	No human homolog found.	No Human Protein Found.			Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#1 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	3292	No human homolog found.	No Human Protein Found.			Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#1 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	3293	No human homolog found.	No Human Protein Found.			Long interspersed repetitive DNA sequence LINE3	M13100cds#1 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)

Table 2.

M13100	3284	No human homolog found.	No Human Protein Found.		Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#2 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	3285	No human homolog found.	No Human Protein Found.		Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#2 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	3286	No human homolog found.	No Human Protein Found.		Long interspersed repetitive DNA sequence LINE3	M13100cds#2 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	3287	No human homolog found.	No Human Protein Found.		Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#3 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	3288	No human homolog found.	No Human Protein Found.		Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#3 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	3289	No human homolog found.	No Human Protein Found.		Long interspersed repetitive DNA sequence LINE3	M13100cds#3 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)

Table 2.

M13100	3300	No human homolog found.	No Human Protein Found.	3307	BM01959 7	3308	P08236	3309	88.96	Glucuronidase, beta	Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#4 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	Beta-glucuronidase precursor (EC 3.2.1.31).
M13100	3301	No human homolog found.	No Human Protein Found.								Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#4 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	Lysosomal.
M13100	3302	No human homolog found.	No Human Protein Found.								Long interspersed repetitive DNA sequence LINE3	M13100cds#4 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	
M13100	3303	No human homolog found.	No Human Protein Found.								Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#5 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	
M13100	3304	No human homolog found.	No Human Protein Found.								Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#5 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	
M13100	3305	No human homolog found.	No Human Protein Found.								Long interspersed repetitive DNA sequence LINE3	M13100cds#5 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	
M13962	3306	P08760										M13962mRNA#2 Rat beta-glucuronidase mRNA, complete cds /cds=UNKNOWN /gb=M13962 /gi=204329 /ug=Rn.3692 /len=2472	



**Table 2.**

Accession	Gene	Protein	NP_000167	3312	AI472273	3311	3310	P06536	3311	AI472273	3312	NP_000167	3313	91.43	Glucocorticoid receptor	Glucocorticoid receptor (GR)
M14053	Rat glucocorticoid receptor mRNA, complete cds /cds=(68,2455) /gb=M14053 /gi=204271 /ug=Rn.8582 /len=6322															
M14656	Rat osteopontin mRNA, complete cds /cds=(79,1032) /gb=M14656 /gi=205659 /ug=Rn.8871 /len=1457	osteopontin	P10451	3316	X13694	3315	3314	P08721	3315	X13694	3316	P10451	3317	89.51		Osteopontin precursor (Bone sialoprotein 1) (Secreted phosphoprotein 1) (SPP-1).
M15474	RATTTA5 Rat alpha-tropomyosin gene, exon 11	Alpha-tropomyosin gene	P09493	3320	NM_000366	3319	3318	AAA21801	3319	NM_000366	3320	P09493	3321	81		
M15474	RATTTA5 Rat alpha-tropomyosin gene, exon 11	Alpha-tropomyosin gene	P09493	3324	NM_000366	3323	3322	AAA21801	3323	NM_000366	3324	P09493	3325	81		
M15481	Rat insulin-like growth factor I (IGF-I) mRNA, complete cds /cds=(793,1176) /gb=M15481 /gi=204753 /ug=Rn.8282 /len=1346	Insulin-like growth factor I (IGF-I)	XP_052652		XM_052652	3327	3326	P08024	3327	XM_052652				92		Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin).
M15523	RATPKCLB Rat protein kinase C-family related mRNA, partial cds, clone RP16	Rat protein kinase C-family related mRNA, partial cds, clone RP16	Q02156	3330	NM_005400	3328	3328	AAA41877	3328	NM_005400	3330	Q02156	3331	83		
M15562	Rat MHC class II RT1.u-D-alpha chain mRNA, 3' end /cds=(0,437) /gb=M15562 /gi=205435 /ug=Rn.4200 /len=805	MHC class II alpha chain RT1.D alpha (u)	P01903	3334	M60334	3333	3332	AAA41809	3333	M60334	3334	P01903	3335	64		

Table 2.

M15562	3336	CAA68 540	3337	NM_0191 11	3338	P01903	3339	70	Rat (diabetic BB) MHC class II alpha chain RT1.D alpha (u)	Y00480	M15562 Rat MHC class II RT1.u-D-alpha chain mRNA, 3' end /cds=(0,437) /gb=M15562 /gi=205435 /ug=Rn.4200 /len=805				
M15562	3340	AAA416 09	3341	M60334	3342	P01903	3343	64	MHC class II alpha chain RT1.D alpha (u)	Y00480	M15562 Rat MHC class II RT1.u-D-alpha chain mRNA, 3' end /cds=(0,437) /gb=M15562 /gi=205435 /ug=Rn.4200 /len=805				
M15562	3344	CAA68 540	3345	NM_0191 11	3346	P01903	3347	70	Rat (diabetic BB) MHC class II alpha chain RT1.D alpha (u)	Y00480	M15562 Rat MHC class II RT1.u-D-alpha chain mRNA, 3' end /cds=(0,437) /gb=M15562 /gi=205435 /ug=Rn.4200 /len=805				
M15768	3348	P05540	3349	NM_0006 16	3350	P01730	3351	52	CD4 antigen		M15768 Rat W3/25 antigen (homologue of human CD4) mRNA, complete cds /cds=(53,1426) /gb=M15768 /gi=203397 /ug=Rn.10748 /len=1749	Type I membrane protein.	T-cell surface glycoprotein CD4 precursor (T-cell surface antigen T4/Leu- 3) (W3/25 antigen).		
M15882	3352	P08081	3353	M20471	3354	P08496	3355	91.57	clathrin light chain (LCA1).		M15882 Rat clathrin light chain (LCA1) mRNA, complete cds /cds=(115,861) /gb=M15882 /gi=203273 /ug=Rn.3428 /len=1124	CYTOPLAS MIC FACE OF COATED PITS AND VESICLES.	Clathrin light chain A (Lca).		
M15882	3356	P08081	3357	M20471	3358	P08496	3359	91.57	clathrin light chain (LCA1).		M15882 Rat clathrin light chain (LCA1) mRNA, complete cds /cds=(115,861) /gb=M15882 /gi=203273 /ug=Rn.3428 /len=1124	CYTOPLAS MIC FACE OF COATED PITS AND VESICLES.	Clathrin light chain A (Lca).		
M15944	3360	P07861	3361	X07166	3362	P08473	3363	91.18	Membrane metallo- endopeptidase (neutral /enkephalinas e)		M15944 Rat enkephalinase (neutral endopeptidase) mRNA /cds=(78,2330) /gb=M15944 /gi=204031 /ug=Rn.11165 /len=3243	Type II membrane protein.	Nephrilysin (EC 3.4.24.11) (Neutral endopeptidase) (NEP)(Enkephal inase).		

Table 2.

M16112	3364	P08413	3365	AF081924	3366	Q8UNX7	3367	93.8	brain type II Ca <sup>2+</sup> /calmodulin-dependent protein kinase	M16112 Rat brain type II Ca <sup>2+</sup> /calmodulin-dependent protein kinase beta subunit mRNA, complete cds /cds=(62,1690) /gb=M16112 /gi=206170 /ug=Rn.9743 /len=1840	Calcium/calmodulin-dependent protein kinase type II beta chain (EC2.7.1.123) (CaM-kinase II beta chain) (CaM kinase II beta subunit) (CaMK-II beta subunit).
M16112	3368	P08413	3369	AF081924	3370	Q8UNX7	3371	93.8	brain type II Ca <sup>2+</sup> /calmodulin-dependent protein kinase	M16112 Rat brain type II Ca <sup>2+</sup> /calmodulin-dependent protein kinase beta subunit mRNA, complete cds /cds=(62,1690) /gb=M16112 /gi=206170 /ug=Rn.9743 /len=1840	Calcium/calmodulin-dependent protein kinase type II beta chain (EC2.7.1.123) (CaM-kinase II beta chain) (CaM kinase II beta subunit) (CaMK-II beta subunit).
M17412	3372	AAA42232	3373	NM_014367	3374	NP_055182	3375	87.72	Growth and transformation-dependent protein	M17412 Rat growth and transformation-dependent mRNA, 3' end /cds=(0,527) /gb=M17412 /gi=207249 /ug=Rn.3378 /len=587	

Table 2.

M17527	3376	P10824	3377	AF055013	3378	P04898	3379	88.01	Guanine nucleotide binding protein, alpha inhibiting 1	M17527 Rat GTP-binding protein (G-alpha-I) mRNA, complete cds /cds=(218,1282) /gb=M17527 /gi=203167 /ug=Rn.11391 /len=1945	"Guanine nucleotide-binding protein G(i), alpha-1 subunit (Adenylylase-cyclase-inhibiting G alpha protein)."
M17527	3380	P10824	3381	AF055013	3382	P04898	3383	88.01	Guanine nucleotide binding protein, alpha inhibiting 1	M17527 Rat GTP-binding protein (G-alpha-I) mRNA, complete cds /cds=(218,1282) /gb=M17527 /gi=203167 /ug=Rn.11391 /len=1945	"Guanine nucleotide-binding protein G(i), alpha-1 subunit (Adenylylase-cyclase-inhibiting G alpha protein)."
M18330	3384	AAA418 71	3385	XM_003106		XP_003106		87	Rat protein kinase C delta subspecies	M18330 RATPKCDA Rat protein kinase C delta subspecies	
M18330	3386	AAA418 71	3387	XM_003106		XP_003106		87	Rat protein kinase C delta subspecies	M18330 RATPKCDA Rat protein kinase C delta subspecies	
M18331	3388	AAA418 72	3389	NM_005400	3390	Q02156	3391	98	Protein kinase C epsilon subspecies	M18331 RATPKCEA Rat protein kinase C epsilon subspecies	
M18331	3392	AAA418 72	3393	NM_005400	3394	Q02156	3395	98	Protein kinase C epsilon subspecies	M18331 RATPKCEA Rat protein kinase C epsilon subspecies	
M18331	3386	AAA418 72	3397	NM_005400	3398	Q02156	3399	98	Protein kinase C epsilon subspecies	M18331 RATPKCEA Rat protein kinase C epsilon subspecies	

M18331	AAA41872	3400	3401	NM_005400	3402	Q02156	3403	98	Protein kinase C epsilon subspecies	M18331 RATPKCEA Rat protein kinase C epsilon subspecies	
M18332	AAA41878	3404	3405	Z15108	3406	Q05513	3407	97	Protein kinase C zeta subspecies	M18332 RATPKCZA Rat protein kinase C zeta subspecies	
M18528	AAA41405	3408	3409	S65921	3410	AAB28160	3411	82	Immunoglobulin kappa-chain	M18528cds RATTGKAH Rat (R.leucopus) Ig germline kappa-chain C-region gene, 3' end	
M18359	P10085	3412	3413	M17315	3414	P11844	3415	83	Gamma-A-crystallin gene	M18359mRNA#2 Rat gamma-crystallin gene cluster, encoding gamma-A (gamma 1-1), gamma-B (gamma 1-2), gamma-C (gamma 2-1), gamma-D (gamma 2-2), and gamma-E (gamma 3-1) crystallins, complete cds /cds=(27,551) /gb=M18359 /gi=203626 /ug=Rn.10805 /len=618	
M18359	AAA40981	3416	3417	XM_002458		XP_002458		83	gamma-A-crystallin	M18359mRNA#2 Rat gamma-crystallin gene cluster, encoding gamma-A (gamma 1-1), gamma-B (gamma 1-2), gamma-C (gamma 2-1), gamma-D (gamma 2-2), and gamma-E (gamma 3-1) crystallins, complete cds /cds=(27,551) /gb=M18359 /gi=203626 /ug=Rn.10805 /len=618	X14115
M20156	P12001	3418	3419	NM_000979	3420	Q07020	3421	96	ribosomal protein L18	M20156 Rat ribosomal protein L18 mRNA, complete cds /cds=(1,567) /gb=M20156 /gi=206723 /ug=Rn.484 /len=607	Cytoplasmic.
M22253	P04774	3422	3423	AY043484	3424	P35498	3425	90	Sodium channel, voltage-gated, type I, alpha	M22253 Rattus norvegicus sodium channel I mRNA, complete cds /cds=(251,6280) /gb=M22253 /gi=1041088 /ug=Rn.10135 /len=8399	Integral membrane protein.
M22357	P07722	3426	3427	NM_080600	3428	P20916	3429	88.91	Rat 1B236/myelin-associated glycoprotein (MAG)	M22357 Rat 1B236/myelin-associated glycoprotein (MAG) mRNA, complete cds /cds=(110,1856) /gb=M22357 /gi=205271 /ug=Rn.8668 /len=2468	Type I membrane protein.
											Myelin-associated glycoprotein precursor (L-MAG/S-MAG) (Brainneuron cytoplasmic protein 3).

Table 2.

M22357	3430	P07722	3431	NM_080600	3432	P20916	3433	88.91	myelin-associated glycoprotein (MAG)	M22357 Rat 1B236/myelin-associated glycoprotein (MAG) mRNA, complete cds /cds=(110,1858) /gb=M22357 /gi=205271 /ug=Rn.9688 /len=2468	Type I membrane protein.	Myelin-associated glycoprotein precursor (L-MAG/S-MAG) (Brainneuron cytoplasmic protein 3).
M22357	3434	P07722	3435	NM_080600	3436	P20916	3437	88.91	Rat 1B236/myelin-associated glycoprotein (MAG)	M22357 Rat 1B236/myelin-associated glycoprotein (MAG) mRNA, complete cds /cds=(110,1858) /gb=M22357 /gi=205271 /ug=Rn.9688 /len=2468	Type I membrane protein.	Myelin-associated glycoprotein precursor (L-MAG/S-MAG) (Brainneuron cytoplasmic protein 3).
M22357	3438	P07722	3439	NM_080600	3440	P20916	3441	88.91	myelin-associated glycoprotein (MAG)	M22357 Rat 1B236/myelin-associated glycoprotein (MAG) mRNA, complete cds /cds=(110,1858) /gb=M22357 /gi=205271 /ug=Rn.9688 /len=2468	Type I membrane protein.	Myelin-associated glycoprotein precursor (L-MAG/S-MAG) (Brainneuron cytoplasmic protein 3).
M22400	3442	P13265	3443	L47125	3444	P51654	3445	88.19	developmentally regulated intestinal protein (OCI-5)	M22400 Rat developmentally regulated intestinal protein (OCI-5) mRNA, complete cds /cds=(114,1907) /gb=M22400 /gi=205789 /ug=Rn.9717 /len=2213	Attached to the membrane by a GPI-anchor.	Glypican-3 precursor (Intestinal protein OCI-5).
M23566	3446	A28122	3447	XM_043632		MAHU	3448	73	Alpha-2-macroglobulin	M23566exon RATA2MAC2 Rattus norvegicus alpha-2-macroglobulin gene, 3 end		
M23643	3449	RHRTT	3450	M63582	3451	P20396	3452	55	Thyrotropin releasing hormone	M23643cds RATTRH02 Rattus norvegicus thyrotropin releasing hormone (TRH) gene, exon 2		

Table 2.

M24104	3453	Q84357	3454	AF135372	3455	P19065	3456	98	Vesicle-associated membrane protein (synaptobrevin 2)	M24104 Rat vesicle associated membrane protein (VAMP-1) mRNA, complete cds /cds=(97,453) /gb=M24104 /gi=207628 /ug=Rn.9972 /len=1482	TYPE II MEMBRANE PROTEIN. NEURONAL SYNAPTIC VESICLES.	Vesicle-associated membrane protein 2 (VAMP 2) (Synaptobrevin 2).
M24104	3457	Q84357	3458	AF135372	3459	P19065	3460	98	Vesicle-associated membrane protein (synaptobrevin 2)	M24104 Rat vesicle associated membrane protein (VAMP-1) mRNA, complete cds /cds=(97,453) /gb=M24104 /gi=207628 /ug=Rn.9972 /len=1482	TYPE II MEMBRANE PROTEIN. NEURONAL SYNAPTIC VESICLES.	Vesicle-associated membrane protein 2 (VAMP 2) (Synaptobrevin 2).
M24104	3461	Q84357	3462	AF135372	3463	P19065	3464	98	Vesicle-associated membrane protein (synaptobrevin 2)	M24104 Rat vesicle associated membrane protein (VAMP-1) mRNA, complete cds /cds=(97,453) /gb=M24104 /gi=207628 /ug=Rn.9972 /len=1482	TYPE II MEMBRANE PROTEIN. NEURONAL SYNAPTIC VESICLES.	Vesicle-associated membrane protein 2 (VAMP 2) (Synaptobrevin 2).
M24104	3465	Q84357	3466	AF135372	3467	P19065	3468	98	Vesicle-associated membrane protein (synaptobrevin 2)	M24104 Rat vesicle associated membrane protein (VAMP-1) mRNA, complete cds /cds=(97,453) /gb=M24104 /gi=207628 /ug=Rn.9972 /len=1482	TYPE II MEMBRANE PROTEIN. NEURONAL SYNAPTIC VESICLES.	Vesicle-associated membrane protein 2 (VAMP 2) (Synaptobrevin 2).
M24104	3469	Q84357	3470	AF135372	3471	P19065	3472	98	Vesicle-associated membrane protein (synaptobrevin 2)	M24104 Rat vesicle associated membrane protein (VAMP-1) mRNA, complete cds /cds=(97,453) /gb=M24104 /gi=207628 /ug=Rn.9972 /len=1482	TYPE II MEMBRANE PROTEIN. NEURONAL SYNAPTIC VESICLES.	Vesicle-associated membrane protein 2 (VAMP 2) (Synaptobrevin 2).

Table 2.

M24104	3473	Q84357	3474	AF135372	3475	P19065	3476	98	Vesicle-associated membrane protein (synaptobrevin 2)	AI103911	M24104 Rat vesicle associated membrane protein (VAMP-1) mRNA, complete cds /cds=(97,453) /gb=M24104 /gi=207628 /ug=Rn.9872 /len=1482	TYPE II MEMBRANE PROTEIN. NEURONAL SYNAPTIC VESICLES.	Vesicle-associated membrane protein 2 (VAMP 2) (Synaptobrevin 2).
M24542	3477	AAA420 51	3478	NM_0060 03	3479	NP_005 994	3480	85	Rieske iron-sulfur protein		M24542cds RATRIP Rat Rieske iron-sulfur protein mRNA, complete cds		
M24542	3481	AAA420 51	3482	NM_0060 03	3483	NP_005 994	3484	85	Rieske iron-sulfur protein		M24542cds RATRIP Rat Rieske iron-sulfur protein mRNA, complete cds		
M24542	3485	AAA420 51	3486	NM_0060 03	3487	NP_005 994	3488	85	Rat Rieske iron-sulfur protein mRNA, complete cds	AI103911	M24542cds RATRIP Rat Rieske iron-sulfur protein mRNA, complete cds		
M24542	3489	AAA420 51	3490	NM_0060 03	3491	NP_005 994	3492	85	Rieske iron-sulfur protein		M24542cds RATRIP Rat Rieske iron-sulfur protein mRNA, complete cds		
M24542	3493	AAA420 51	3494	NM_0060 03	3495	NP_005 994	3496	85	Rieske iron-sulfur protein		M24542cds RATRIP Rat Rieske iron-sulfur protein mRNA, complete cds		
M24542	3497	AAA420 51	3498	NM_0060 03	3499	NP_005 994	3500	85	Rat Rieske iron-sulfur protein mRNA, complete cds	AI103911	M24542cds RATRIP Rat Rieske iron-sulfur protein mRNA, complete cds		
M24604	3501	CAA68 261	3502	NM_0025 92	3503	P12004	3504	98	Cyclin (PCNA, proliferating cell nuclear antigen)	Y00047	M24604 Rat proliferating cell nuclear antigen (PCNA/cyclin) mRNA, complete cds /cds=(62,847) /gb=M24604 /gi=206047 /ug=Rn.223 /len=1160		
M24604	3505	CAA68 261	3506	NM_0025 92	3507	P12004	3508	98	Cyclin (PCNA, proliferating cell nuclear antigen)	Y00047	M24604 Rat proliferating cell nuclear antigen (PCNA/cyclin) mRNA, complete cds /cds=(62,847) /gb=M24604 /gi=206047 /ug=Rn.223 /len=1160		



Table 2.

M25584	3509	CAA24 559	3510	J00265	3511	AAA591 72	3512	95	Insulin 1 gene	V01242	M25584 Rat Insulin 1 gene, exons 1 (partial) and 2 /cds=(114,446) /gb=M25584 /gi=204947 /ug=Rn.982 /len=542		
M25638	3513	AAA416 84	3514	XM_005159	3515	XP_005159	3516	88	Rat smallest neurofilament protein (NF-L) mRNA, partial cds		M25638 RATNLF Rat smallest neurofilament protein (NF-L) mRNA, partial cds		
M25646	3517	P01186	3518	XM_008580		XP_009580		80	Vasopressin		M25646 Rat vasopressin mRNA, complete cds /cds=(32,526) /gb=M25646 /gi=207673 /ug=Rn.9976 /len=584		Vasopressin-neurophysin 2-copeptin precursor [Contains: Arg-vasopressin; Neurophysin 2 (Neurophysin-I); Copeptin].
M25804	3519	Q63503	3520	NM_021724	3521	P20393	3522	88	Rev-erbA-alpha protein	Nuclear.	M25804 Rat Rev-ErbA-alpha protein mRNA, complete cds /cds=(501,2027) /gb=M25804 /gi=514963 /ug=Rn.10105 /len=2297		Orphan nuclear receptor NR1D1 (V-erbA related protein EAR-1) (Rev-erbA-alpha).
M25804	3523	Q63503	3524	NM_021724	3525	P20393	3526	88	Rev-erbA-alpha protein	Nuclear.	M25804 Rat Rev-ErbA-alpha protein mRNA, complete cds /cds=(501,2027) /gb=M25804 /gi=514963 /ug=Rn.10105 /len=2297		Orphan nuclear receptor NR1D1 (V-erbA related protein EAR-1) (Rev-erbA-alpha).

Table 2.

M25890	3527	P01167	3528	NM_001048	3529	RIHUS1	3530	90.31	Somatostatin	M25890 Rat somatostatin mRNA, complete cds /cds=(60,410) /gb=M25890 /gi=207030 /ug=Rn.540 /len=564	Secreted.	Somatostatin precursor [Contains: Antrin; Somatostatin-28; Somatostatin-14].
M26125	3531	P07687	3532	A1636871	3533	XP_001799		88.14	epoxide hydrolase	M26125 Rat epoxide hydrolase mRNA, complete cds /cds=(148,1515) /gb=M26125 /gi=207688 /ug=Rn.3603 /len=1733	MEMBRANE BOUND ON MICROSOM ES.	Epoxide hydrolase 1 (EC 3.3.2.3) (Microsomal epoxide hydrolase)(Epoxide hydratase).
M26161	3534	P10499	3535	L02750	3536	Q08470	3537	92.82	Rattus norvegicus potassium channel protein mRNA, complete cds	M26161 Rattus norvegicus potassium channel protein mRNA, complete cds /cds=(34,1521) /gb=M26161 /gi=208490 /ug=Rn.9769 /len=1729	Integral membrane protein.	Voltage-gated potassium channel protein Kv1.1 (IA) (RBK1) (RCK1).
M26161	3538	P10499	3539	L02750	3540	Q08470	3541	92.82	Rattus norvegicus potassium channel protein mRNA, complete cds	M26161 Rattus norvegicus potassium channel protein mRNA, complete cds /cds=(34,1521) /gb=M26161 /gi=208490 /ug=Rn.9769 /len=1729	Integral membrane protein.	Voltage-gated potassium channel protein Kv1.1 (IA) (RBK1) (RCK1).
M26247	3542	AAA41162	3543	NM_000133	3544	P00740	3545	78	Rat factor IX mRNA, partial cds	M26247 RATFIXA Rat factor IX mRNA, partial cds		
M26594	3546	AAA41563	3547	L34035	3548	P48163	3549	88	malic enzyme (MAL)	M26594 Rat malic enzyme gene /cds=(0,1760) /gb=M26594 /gi=205293 /ug=Rn.22280 /len=1761		
M26594	3550	AAA41563	3551	L34035	3552	P48163	3553	88	malic enzyme	M26594 Rat malic enzyme gene /cds=(0,1760) /gb=M26594 /gi=205293 /ug=Rn.22280 /len=1761		

Table 2.

M26686	3554	P22062	3555	AF219140	3556	P22061	3557	98.7	Protein-L- isoaspartate (D-aspartate) O- methyltransferase	M26686 Rattus norvegicus carboxyl methyltransferase mRNA, complete cds /cds=(60,743) /gb=M26686 /gi=603466 /ug=Rn.7136 /len=1658	Cytoplasmic.	Protein-L- isoaspartate(D- aspartate) O- methyltransferase (EC 2.1.1.77)(Protal n-beta-aspartate methyltransferase) (PIMT) (Protein L- isoaspartyl/D- aspartyl methyltransferase) (L- isoaspartyl protein carbox
M26686	3558	P22062	3559	AF219140	3560	P22061	3561	98.7	Protein-L- isoaspartate (D-aspartate) O- methyltransferase	M26686 Rattus norvegicus carboxyl methyltransferase mRNA, complete cds /cds=(60,743) /gb=M26686 /gi=603466 /ug=Rn.7136 /len=1658	Cytoplasmic.	Protein-L- isoaspartate(D- aspartate) O- methyltransferase (EC 2.1.1.77)(Protal n-beta-aspartate methyltransferase) (PIMT) (Protein L- isoaspartyl/D- aspartyl methyltransferase) (L- isoaspartyl protein carbox
M27467	3562	P11951	3563	BG952851	3564	P09669	3565	83.54	Heart cytochrome oxidase subunit Vlc (COX-Vlc)	M27467 RATCOXHRT Rattus norvegicus heart cytochrome oxidase subunit Vlc (COX- Vlc) mRNA, complete cds	Mitochondrial inner membrane.	Cytochrome c oxidase polypeptide Vlc- 2 (EC 1.9.3.1).

Table 2.

M27726	3566	AAA408 15	3567	J03544	3568	P11216	3569	92	Phosphorylas e (B-GP1)	M27726 RATBGP1P Rat phosphorylase (B- GP1) mRNA, partial cds	SYNAPSE.	Synapsin I.
M27728	3570	AAA408 15	3571	J03544	3572	P11216	3573	92	Phosphorylas e (B-GP1)	M27726 RATBGP1P Rat phosphorylase (B- GP1) mRNA, partial cds	SYNAPSE.	Synapsin II.
M27812	3574	P09951	3575	XM_01312 0		XP_013 120		64	Synapsin Ia mRNA	M27812 Rat synapsin Ia mRNA, complete cds /cds=(80,2194) /gb=M27812 /gi=206920 /ug=Rn.8923 /len=2400		Cytochrome c oxidase polypeptide VIII- liver (EC 1.9.3.1).
M27825	3576	Q63537	3577	U40215	3578	Q82777	3579	92.66	synapsin 2a	M27825 Rat synapsin 2a mRNA, complete cds /cds=(130,1890) /gb=M27825 /gi=206833 /ug=Rn.506 /len=2648	SYNAPSE.	
M28255	3580	P80433	3581	No human homolog found.		No Human Protein Found.			Cytochrome c oxidase subunit VIII mRNA, 3' end	M28255 RATCYOBA Rat cytochrome c oxidase subunit VIII mRNA, 3' end		
M28648	3582	AAA416 72	3583	M37457	3584	P13637	3585	95	Na,K-ATPase alpha-2 subunit mRNA, 5' end	M28648 RATNALPH2 Rattus norvegicus Na,K-ATPase alpha-2 subunit mRNA, 5' end		
M28648	3586	AAA416 72	3587	XM_00935 1		XP_009 351		63	Na,K-ATPase alpha-2 subunit mRNA, 5' end	M28648 RATNALPH2 Rattus norvegicus Na,K-ATPase alpha-2 subunit mRNA, 5' end		
M29249	3588	P51639	3589	M11058	3590	P04035	3591	92	3-hydroxy-3- methylglutaryl- Coenzyme A reductase	M29249cds RAT3H3M Rat 3-hydroxy-3- methylglutaryl coenzyme A reductase gene, partial cds		
M29249	3592	P51639	3593	M11058	3594	P04035	3595	92	3-hydroxy-3- methylglutaryl- Coenzyme A reductase	M29249cds RAT3H3M Rat 3-hydroxy-3- methylglutaryl coenzyme A reductase gene, partial cds		



Table 2.

M31178	3612	P07171	3613	X06661	3614	P05937	3615	91.84	Cerebellar Ca-binding protein, spot 35 protein		M31178 Rat calbindin D28 mRNA, complete cds /cds=(285,1070) /gb=M31178 /gi=203234 /ug=Rn.3908 /len=2280	"Calbindin (Vitamin D-dependent calcium-binding protein, avian-type) (Calbindin D28) (D-28K) (Spot 35 protein)."
M31788	3616	P16617	3617	NM_000291	3618	P00558	3619	97	phosphoglycerate kinase	AA892797	M31788 Rat X-chromosome linked phosphoglycerate kinase mRNA, complete cds /cds=(40,1293) /gb=M31788 /gi=206112 /ug=Rn.10989 /len=1675	"Phosphoglycerate kinase, testis specific (EC 2.7.2.3)."
M31788	3620	P16617	3621	NM_000291	3622	P00558	3623	97	phosphoglycerate kinase	AA892797	M31788 Rat X-chromosome linked phosphoglycerate kinase mRNA, complete cds /cds=(40,1293) /gb=M31788 /gi=206112 /ug=Rn.10989 /len=1675	"Phosphoglycerate kinase, testis specific (EC 2.7.2.3)."
M32062	3624	P27645	3625	AV703731	3626	AAA35827	3627	96.12	Fo-gamma receptor		M32062 Rat Fo-gamma receptor mRNA, complete cds /cds=(49,852) /gb=M32062 /gi=204114 /ug=Rn.6050 /len=1341	Low affinity immunoglobulin gamma FC region receptor III precursor(IGG FC receptor III) (FC-gamma RII) (FCRII).
M32062	3628	P27645	3629	AV703731	3630	AAA35827	3631	96.12	Fo-gamma receptor		M32062 Rat Fo-gamma receptor mRNA, complete cds /cds=(49,852) /gb=M32062 /gi=204114 /ug=Rn.6050 /len=1341	Low affinity immunoglobulin gamma FC region receptor III precursor(IGG FC receptor III) (FC-gamma RII) (FCRII).

Table 2.

M32062	3632	P27645	3633	AV703731	3634	AAA358 27	3635	98.12	Fo-gamma receptor	M32062 Rat Fo-gamma receptor mRNA, complete cds /cds=(49,852) /gb=M32062 /gi=204114 /ug=Rn.6050 /len=1341	Type I membrane protein .	Low affinity immunoglobulin gamma FC region receptor III precursor(IIG FC receptor III) (FC-gamma RIII) (FCRIII).
M32062	3636	P27645	3637	AV703731	3638	AAA358 27	3639	98.12	Fo-gamma receptor	M32062 Rat Fo-gamma receptor mRNA, complete cds /cds=(49,852) /gb=M32062 /gi=204114 /ug=Rn.6050 /len=1341	Type I membrane protein .	Low affinity immunoglobulin gamma FC region receptor III precursor(IIG FC receptor III) (FC-gamma RIII) (FCRIII).
M32397	3640	P20646	3641	M34840	3642	P15309	3643	84.94	Rat prostatic acid phosphatase (rPAP)	M32397 Rat prostatic acid phosphatase (rPAP) mRNA, complete cds /cds=(40,1185) /gb=M32397 /gi=206028 /ug=Rn.9728 /len=1603		Prostatic acid phosphatase precursor (EC 3.1.3.2).
M32397	3644	P20646	3645	M34840	3646	P15309	3647	84.94	Rat prostatic acid phosphatase (rPAP)	M32397 Rat prostatic acid phosphatase (rPAP) mRNA, complete cds /cds=(40,1185) /gb=M32397 /gi=206028 /ug=Rn.9728 /len=1603		Prostatic acid phosphatase precursor (EC 3.1.3.2).
M32887	3648	P15385	3649	L02751	3650	P22459	3651	90.52	Potassium channel protein (RHK1)	M32887 Rat potassium channel protein (RHK1) mRNA, complete cds /cds=(80,2044) /gb=M32887 /gi=205042 /ug=Rn.9884 /len=3201	Integral membrane protein.	Voltage-gated potassium channel protein Kv1.4 (RCK4) (RHK1) (RK4).

Table 2.

M33648	3652	P22791	3653	X83618	3654	P54868	3655	86.03	3-hydroxy-3-methylglutaryl-CoA synthase	M33648 Rat mitochondrial 3-hydroxy-3-methylglutaryl-CoA synthase mRNA, complete cds /cds=(49,1575) /gb=M33648 /gi=204618 /ug=Rn.8592 /len=1894	Mitochondrial	"Hydroxymethylglutaryl-CoA synthase, mitochondrial precursor(EC 4.1.3.5) (HMG-CoA synthase) (3-hydroxy-3-methylglutaryl coenzyme A synthase)."
M33648	3656	P22791	3657	X83618	3658	P54868	3659	86.03	3-hydroxy-3-methylglutaryl-CoA synthase	M33648 Rat mitochondrial 3-hydroxy-3-methylglutaryl-CoA synthase mRNA, complete cds /cds=(49,1575) /gb=M33648 /gi=204618 /ug=Rn.8592 /len=1894	Mitochondrial	"Hydroxymethylglutaryl-CoA synthase, mitochondrial precursor(EC 4.1.3.5) (HMG-CoA synthase) (3-hydroxy-3-methylglutaryl coenzyme A synthase)."
M34176	3660	P21851	3661	M34175	3662	P21851	3663	100	R.norvegicus beta-chain clathrin associated protein complex AP-2 mRNA, complete cds	M34176 Rat beta adaptin mRNA, complete cds /cds=(71,2884) /gb=M34176 /gi=203086 /ug=Rn.1050 /len=3477	COMPONENT OF THE COAT SURROUNDING THE CYTOPLASMIC FACE OF COATED VESICLES IN THE PLASMA MEMBRANE.	Adaptor-related protein complex 2 beta 1 subunit (Beta-adaptin)(Plasma membrane adaptor HA2/AP2 adaptin beta subunit) (Clathrin assembly protein complex 2 beta large chain) (AP105B).



Table 2.

M34253	3664	P23570	3665	X14454	3666	P10914	3667	88.81	Interferon regulatory factor 1 (IRF- 1)	M34253 Rat Interferon regulatory factor 1 (IRF-1) mRNA, complete cds /cds=(197,1183) /gb=M34253 /gi=204970 /ug=Rn.6396 /len=2048	Nuclear.	Interferon regulatory factor 1 (IRF-1).
M34253	3668	P23570	3669	X14454	3670	P10914	3671	88.81	Interferon regulatory factor 1 (IRF- 1)	M34253 Rat Interferon regulatory factor 1 (IRF-1) mRNA, complete cds /cds=(197,1183) /gb=M34253 /gi=204970 /ug=Rn.6396 /len=2048	Nuclear.	Interferon regulatory factor 1 (IRF-1).
M35270	3672	P09139	3673	NM_0000 30	3674	P21549	3675	76	Alanine- glyoxylate amino transfer ase (Serine- pyruvate amino transfer ase)	M35270completeSeq RATSPA Rat serine pyruvate aminotransferase mRNA, complete cds	MITOCHON DRIAL MATRIX (INDUCED ON GLUCAGON ADMINISTR ATION) AND PEROXISOM ES (NOT EFFECTED BY GLUCAGON)	"Serine- pyruvate amino transferas e, mitochondrial precursor(EC 2.6.1.51) (SPT) (Alanine- glyoxylate amino transferas e)(EC 2.6.1.44) (AGT)."
M35270	3676	P09139	3677	NM_0000 30	3678	P21549	3679	76	Alanine- glyoxylate amino transfer ase (Serine- pyruvate amino transfer ase)	M35270completeSeq RATSPA Rat serine pyruvate aminotransferase mRNA, complete cds	MITOCHON DRIAL MATRIX (INDUCED ON GLUCAGON ADMINISTR ATION) AND PEROXISOM ES (NOT EFFECTED BY GLUCAGON)	"Serine- pyruvate amino transferas e, mitochondrial precursor(EC 2.6.1.51) (SPT) (Alanine- glyoxylate amino transferas e)(EC 2.6.1.44) (AGT)."

Table 2.

M36151	3680	AAA416 12	3681	M81141	3682	P01919	3683	77	MHC class II A-beta RT1.B- b-beta gene	M36151 cds RATMHR1B Rat MHC class II A-beta RT1.B-b-beta gene, partial cds		
M38410	3684	P18297	3685	M76231	3686	P35270	3687	74	Sepiapterin reductase	M38410 Rat sepiapterin reductase mRNA, partial cds /cds=(0,779) /gb=M36410 /gi=206895 /ug=Rn.6658 /len=1157	Cytoplasmic.	Sepiapterin reductase (EC 1.1.1.153) (SPR).
M38410	3688	P18297	3689	M76231	3690	P35270	3691	74	Sepiapterin reductase	M38410 Rat sepiapterin reductase mRNA, partial cds /cds=(0,779) /gb=M36410 /gi=206895 /ug=Rn.6658 /len=1157	Cytoplasmic.	Sepiapterin reductase (EC 1.1.1.153) (SPR).
M55015	3692	AAA417 32	3693	XM_04874 1		XP_048 741		73	nucleolin	M55015 cds RATNUCIA1 Rat nucleolin gene		
M55017	3694	AAA417 32	3695	XM_04874 1		XP_048 741		73	Rat nucleolin gene	M55017 exon RATNUCIA2 Rat nucleolin gene		
M55417	3696	NP_036 760	3697	NM_0027 39	3698	P05129	3699	93	Protein kinase C-gamma (PRKC- gamma) gene	M55417 exon RATPKCGA Rat protein kinase C-gamma (PRKC-gamma) gene, exon 1		
M57276	3700	P24485	3701	M37033	3702	P19397	3703	83.56	leukocyte antigen MRC- OX44	M57276 Rat leukocyte antigen MRC-OX44 mRNA, complete cds /cds=(161,820) /gb=M57276 /gi=205897 /ug=Rn.2133 /len=1699	Integral membrane protein.	Leukocyte surface antigen CD53 (Cell surface glycoprotein CD53)(Leukocyte antigen MRC OX-44).
M57428	3704	P21425	3705	M60724	3706	P23443	3707	96.36	S6 kinase	M57428 RAT6KIN3 Rat S6 kinase mRNA, complete cds	CYTOPLAS MIC. ALSO FOUND IN THE SOLUBLE SYNAPTOS OMIAL FRACTIONS.	Ribosomal protein S6 kinase I (EC 2.7.1.-) (S6K) (P70-S6K).

Table 2.

M57728	3708	P20069	3709	D21064	3710	Q10713	3711	86.9	Rat general mitochondrial matrix processing protease (MPP) mRNA, 3' end	M57728 Rat general mitochondrial matrix processing protease (MPP) mRNA, 3 end /cds=(0,1574) /gb=M57728 /gi=205516 /ug=Rn.11175 /len=1712	Mitochondrial matrix.	"Mitochondrial processing peptidase alpha subunit, mitochondrial precursor (EC 3.4.24.64) (Alpha-MPP) (P-55)."
M57728	3712	P20069	3713	D21064	3714	Q10713	3715	86.9	Rat general mitochondrial matrix processing protease (MPP) mRNA, 3' end	M57728 Rat general mitochondrial matrix processing protease (MPP) mRNA, 3 end /cds=(0,1574) /gb=M57728 /gi=205516 /ug=Rn.11175 /len=1712	Mitochondrial matrix.	"Mitochondrial processing peptidase alpha subunit, mitochondrial precursor (EC 3.4.24.64) (Alpha-MPP) (P-55)."
M57728	3716	P20069	3717	D21064	3718	Q10713	3719	86.9	Rat general mitochondrial matrix processing protease (MPP) mRNA, 3' end	M57728 Rat general mitochondrial matrix processing protease (MPP) mRNA, 3 end /cds=(0,1574) /gb=M57728 /gi=205516 /ug=Rn.11175 /len=1712	Mitochondrial matrix.	"Mitochondrial processing peptidase alpha subunit, mitochondrial precursor (EC 3.4.24.64) (Alpha-MPP) (P-55)."
M57728	3720	P20069	3721	D21064	3722	Q10713	3723	86.9	Rat general mitochondrial matrix processing protease (MPP) mRNA, 3' end	M57728 Rat general mitochondrial matrix processing protease (MPP) mRNA, 3 end /cds=(0,1574) /gb=M57728 /gi=205516 /ug=Rn.11175 /len=1712	Mitochondrial matrix.	"Mitochondrial processing peptidase alpha subunit, mitochondrial precursor (EC 3.4.24.64) (Alpha-MPP) (P-55)."
M58364	3724	P22288	3725	U63810	3726	O76071	3727	92.83	GTP cyclohydrolase I	M58364 Rat GTP cyclohydrolase I mRNA, complete cds /cds=(127,852) /gb=M58364 /gi=204536 /ug=Rn.5933 /len=1016	GTP cyclohydrolase I precursor (EC 3.5.4.16) (GTP-CH-1).	

Table 2.

M58370	3728	P17084	3729	BG311131	3730	NP_001823	3731	93.26	Colipase	M58370 Rat colipase mRNA, complete cds /cds=(58,396) /gb=M58370 /gi=203504 /lug=Rn.6714 /len=492	Colipase precursor.
M60322	3732	AAA40721	3733	NM_001628	3734	P15121	3735	85	Aldehyde reductase 1 (low Km aldose reductase) (5.8 kb PstI fragment, probably the functional gene)	M60322 Rat aldose reductase gene, complete cds /cds=(38,988) /gb=M60322 /gi=202851 /lug=Rn.2917 /len=1339	
M60322	3736	AAA40721	3737	NM_001628	3738	P15121	3739	85	Aldehyde reductase 1 (low Km aldose reductase) (5.8 kb PstI fragment, probably the functional gene)	M60322 Rat aldose reductase gene, complete cds /cds=(38,988) /gb=M60322 /gi=202851 /lug=Rn.2917 /len=1339	
M60322	3740	AAA40721	3741	NM_001628	3742	P15121	3743	85	Aldehyde reductase 1 (low Km aldose reductase) (5.8 kb PstI fragment, probably the functional gene)	M60322 Rat aldose reductase gene, complete cds /cds=(38,988) /gb=M60322 /gi=202851 /lug=Rn.2917 /len=1339	

Table 2.

M60322	3744	AAA407 21	3745	NM_0016 28	3746	P15121	3747	85	Aldehyde reductase 1 (low Km aldose reductase) (5.8 kb PstI fragment, probably the functional gene)	M60322 Rat aldose reductase gene, complete cds /cds=(38,988) /gb=M60322 /gi=202851 /ug=Rn.2917 /len=1339
M60322	3748	AAA407 21	3749	NM_0016 28	3750	P15121	3751	85	Aldehyde reductase 1 (low Km aldose reductase) (5.8 kb PstI fragment, probably the functional gene)	M60322 Rat aldose reductase gene, complete cds /cds=(38,988) /gb=M60322 /gi=202851 /ug=Rn.2917 /len=1339
M60322	3752	AAA407 21	3753	NM_0016 28	3754	P15121	3755	85	Aldehyde reductase 1 (low Km aldose reductase) (5.8 kb PstI fragment, probably the functional gene)	M60322 Rat aldose reductase gene, complete cds /cds=(38,988) /gb=M60322 /gi=202851 /ug=Rn.2917 /len=1339
M60921	3756	P27049	3757	U72649	3758	P78543	3759	88.24	B-cell translocation gene 2, anti- proliferative	M60921 Rat PC3 NGF-inducible anti- proliferative putative secreted protein (PC3) mRNA, complete cds /cds=(64,540) /gb=M60921 /gi=205720 /ug=Rn.4308 /len=2519
M60921	3760	P27049	3761	U72649	3762	P78543	3763	88.24	B-cell translocation gene 2, anti- proliferative	M60921 Rat PC3 NGF-inducible anti- proliferative putative secreted protein (PC3) mRNA, complete cds /cds=(64,540) /gb=M60921 /gi=205720 /ug=Rn.4308 /len=2519
										BTG2 protein (NGF-inducible anti-proliferative protein PC3).
										BTG2 protein (NGF-inducible anti-proliferative protein PC3).

Table 2.

M60921	3764	P27049	3765	U72649	3766	P78543	3767	88.24	B-cell translocation gene 2, anti- proliferative	M60921 Rat PC3 NGF-inducible anti- proliferative putative secreted protein (PC3) mRNA, complete cds /cds=(64,540) /gb=M60921 /gi=205720 /ug=Rn.4308 /len=2519	BTG2 protein (NGF-inducible anti-proliferative protein PC3).
M60921	3768	P27049	3769	U72649	3770	P78543	3771	88.24	B-cell translocation gene 2, anti- proliferative	M60921 Rat PC3 NGF-inducible anti- proliferative putative secreted protein (PC3) mRNA, complete cds /cds=(64,540) /gb=M60921 /gi=205720 /ug=Rn.4308 /len=2519	BTG2 protein (NGF-inducible anti-proliferative protein PC3).
M61219	3772	P24142	3773	NM_002634	3774	P35232	3775	93	prohibitin	M61219 Rat prohibitin (phb) mRNA, complete cds /cds=(1,829) /gb=M61219 /gi=206383 /ug=Rn.719 /len=1688	Prohibitin (B-cell receptor associated protein 32) (BAP 32).
M61875	3776	P26051	3777	BF748398	3778	P04920	3779	91.33	glycoprotein CD44	M61875 Rattus norvegicus glycoprotein CD44 (CD44) mRNA, complete cds /cds=(112,1208) /gb=M61875 /gi=576532 /ug=Rn.1120 /len=2747	CD44 antigen precursor (Phagocytic glycoprotein I) (PGP-1) (HUTCH- I)(Extracellular matrix receptor- III) (ECMR-III) (GP80) lymphocyte homi- ng/adhesion receptor (Hermes antigen) (Hyaluronate receptor)(LY-

Table 2.

M62388	3780	P23567	3781	BC005879	3782	P23567	3783	94.38	Ubiquitin conjugating enzyme	M62388 RATUCE Rattus norvegicus ubiquitin conjugating enzyme mRNA, complete cds	Ubiquitin- conjugating enzyme E2 B (EC 6.3.2.19) (Ubiquitin- proteinligase B) (Ubiquitin carrier protein B) (HR6B) (HHR6B) (E2-17 kDa).
M62388	3784	P23567	3785	BC005879	3786	P23567	3787	94.38	Ubiquitin conjugating enzyme	M62388 RATUCE Rattus norvegicus ubiquitin conjugating enzyme mRNA, complete cds	Ubiquitin- conjugating enzyme E2 B (EC 6.3.2.19) (Ubiquitin- proteinligase B) (Ubiquitin carrier protein B) (HR6B) (HHR6B) (E2-17 kDa).
M62992	3788	AAA417 89	3789	XM_00898 6		XP_008 986		57	glycoprotein p62	M62992 R.rattus glycoprotein p62 gene, complete cds /cds=(716,2293) /gb=M62992 /gi=205953 /ug=Rn.354 /len=2918	
M62992	3790	AAA417 89	3791	XM_00898 6		XP_008 986		57	glycoprotein p62	M62992 R.rattus glycoprotein p62 gene, complete cds /cds=(716,2293) /gb=M62992 /gi=205953 /ug=Rn.354 /len=2918	
M63122	3792	P22834	3793	M33284	3784	P18438	3795	84.09	Tumor necrosis factor receptor	M63122 Rat tumor necrosis factor receptor (TNF receptor) mRNA, complete cds /cds=(237,1622) /gb=M63122 /gi=207361 /ug=Rn.11119 /len=2130	Type I membrane protein.  Tumor necrosis factor receptor superfamily member 1A precursor (p60)(TNF-R1) (TNF-R) (p55).

Table 2.

M63485	3786	P43244	3797	BC015031	3798	P43243	3799	92.81	matrin 3	M63485 Rattus norvegicus matrin 3 mRNA, complete cds /cds=(225,2762) /gb=M63485 /gi=2276401 /ug=Rn.8064 /len=3744	NUCLEAR MATRIX.	Matrin 3.
M63901	3800	P27682	3801	BC005349	3802	P05408	3803	88.1	neuroendocrine protein 7B2	M63901 Rat neuroendocrine protein 7B2 mRNA, complete cds /cds=(36,668) /gb=M63901 /gi=202562 /ug=Rn.6173 /len=1107	Neuroendocrine and endocrine secretory granules.	Neuroendocrine protein 7B2 precursor (Secretogranin V).
M63901	3804	P27682	3805	BC005349	3806	P05408	3807	88.1	neuroendocrine protein 7B2	M63901 Rat neuroendocrine protein 7B2 mRNA, complete cds /cds=(36,668) /gb=M63901 /gi=202562 /ug=Rn.6173 /len=1107	Neuroendocrine and endocrine secretory granules.	Neuroendocrine protein 7B2 precursor (Secretogranin V).
M63983	3808	P27605	3809	L29382	3810	AAB59392	3811	94	Rat hypoxanthine phosphoribosyltransferase	M63983 RATHPRT Rat hypoxanthine phosphoribosyltransferase mRNA, complete cds	Cytoplasmic.	Hypoxanthine-guanine phosphoribosyltransferase (EC 2.4.2.8) (HGPRT)(HGP RTase).
M63983	3812	P27605	3813	NIM_000194	3814	P00492	3815	95	hypoxanthine phosphoribosyltransferase	M63983 RATHPRT Rat hypoxanthine phosphoribosyltransferase mRNA, complete cds	Cytoplasmic.	Hypoxanthine-guanine phosphoribosyltransferase (EC 2.4.2.8) (HGPRT)(HGP RTase).
M64092	3816	P27775	3817	AF225513	3818	Q9C010	3819	84.4	CAMP-dependent protein kinase (catalytic subunit binding) Inhibitor 2	M64092 Rat testis cAMP-dependent protein kinase inhibitor protein mRNA, complete cds /cds=(255,470) /gb=M64092 /gi=206196 /ug=Rn.9748 /len=1350		"cAMP-dependent protein kinase inhibitor, beta form (PKI-beta) (cAMP-dependent protein kinase inhibitor, testis isoform)."



Table 2.

M64301	3820	P27704	3821	NM_002748	3822	Q16659	3823	91.51	extracellular signal-related kinase 3.	M64301 RATERK3 Rat extracellular signal-related kinase (ERK3) mRNA, complete cds	Mitogen-activated protein kinase 6 (EC 2.7.1.-) (Extracellular signal-regulated kinase 3) (ERK-3) (p55-MAPK).
M64301	3824	P27704	3825	NM_002748	3826	Q16659	3827	91.51	extracellular signal-related kinase 3.	M64301 RATERK3 Rat extracellular signal-related kinase (ERK3) mRNA, complete cds	Mitogen-activated protein kinase 6 (EC 2.7.1.-) (Extracellular signal-regulated kinase 3) (ERK-3) (p55-MAPK).
M64376	3828	P23265	3829	NM_012377	3830	g3290001		80.65	Rat olfactory protein mRNA, complete cds	M64376 RATOLFPROB Rat olfactory protein mRNA, complete cds	Olfactory receptor-like protein F3.
M64488	3831	P29101	3832	XM_012840	3833	XP_012840	3834	56	synaptotagmin II	M64488 Rat synaptotagmin II mRNA, complete cds (cds=(114,1382) /gb=M64488 /gi=207144 /ug=Rn.10042 /len=2681	SYNAPTIC VESICLES AND CHROMAFFIN GRANULES.
M64733	3835	AAA42299	3836	XM_027447		XP_027447		75	Rat TRPM-2 gene	M64733mRNA RATTRPM2B Rat TRPM-2 gene, complete cds	Synaptotagmin II (SytlI).

Table 2.

M64755	3837	Q64611	3838	AF116545	3839	Q9Y600	3840	89.68	cysteine sulfinic acid decarboxylase	M64755 <i>Rattus norvegicus</i> cysteine sulfinic acid decarboxylase mRNA, complete cds /cds=(67,1503) /gb=M64755 /gi=847652 /ug=Rn.11321 /len=2080
M64787	3841	P25114	3842	AF108765	3843	Q16877	3844	89.15	6- phosphofructo- 2- kinase/fructos e-2,6- biphosphatase 4	M64787 Rat testis fructose-6-phosphate, 2- kinase-fructose-2, 6-bisphosphatase mRNA, complete cds /cds=(34,1443) /gb=M64787 /gi=204147 /ug=Rn.10925 /len=1739

Cysteine sulfinic  
acid  
decarboxylase  
(EC 4.1.1.29)  
(Sulfinolalined  
ecarboxylase)  
(Cysteine-  
sulfinic  
decarboxylase).

"6-  
phosphofructo-2-  
kinase/fructose-  
2,6-  
biphosphatase 4  
(6PF-2-K/Fru-  
2,6-P2ASE  
testis-type  
isozyme)  
[Includes: 6-  
phosphofructo-2-  
kinase(EC  
2.7.1.105);  
Fructose-2,6-  
biphosphatase  
(EC 3.1.3.46)]."

Table 2.

M64986	3845	P07155	3846	AV701053	3847	P09429	3848	100	amphotericin	M64986 Rat amphotericin mRNA, complete cds /cds=(122,769) /gb=M64986 /gi=202884 /ug=Rn.4121 /len=1225	"NUCLEAR AND ALSO CYTOPLAS MIC, ASSOCIATED WITH THE PLASMA MEMBRANE OF FILIPODIA IN PROCESS-GROWING CELLS, AND ALSO DEPOSITED INTO THE SUBSTRATE ATTACHED MATERIAL."	High mobility group protein 1 (HMG-1) (Amphotericin) (Heparin-binding protein p30).
M64986	3849	P07155	3850	AV701053	3851	P09429	3852	100	amphotericin	M64986 Rat amphotericin mRNA, complete cds /cds=(122,769) /gb=M64986 /gi=202884 /ug=Rn.4121 /len=1225	"NUCLEAR AND ALSO CYTOPLAS MIC, ASSOCIATED WITH THE PLASMA MEMBRANE OF FILIPODIA IN PROCESS-GROWING CELLS, AND ALSO DEPOSITED INTO THE SUBSTRATE ATTACHED MATERIAL."	High mobility group protein 1 (HMG-1) (Amphotericin) (Heparin-binding protein p30).

Table 2.

M65251	3853	Q00900	3854	X65844	3855	P31629	3856	92.8	Human Immunodeficiency virus type 1 enhancer-binding protein 2	M65251 Rat angiotensinogen gene-Inducible enhancer-binding protein 1 mRNA, 3' end /cds=(0,2752) /gb=M65251 /gi=202790 /ug=Rn.9802 /len=3774	Nuclear.	DNA-binding protein AGIE-BP1 (Angiotensinogen gene-Inducible enhancer-binding protein 1) (Fragment).
M65251	3857	Q00900	3858	X65844	3859	P31629	3860	92.8	Human Immunodeficiency virus type 1 enhancer-binding protein 2	M65251 Rat angiotensinogen gene-Inducible enhancer-binding protein 1 mRNA, 3' end /cds=(0,2752) /gb=M65251 /gi=202790 /ug=Rn.9802 /len=3774	Nuclear.	DNA-binding protein AGIE-BP1 (Angiotensinogen gene-Inducible enhancer-binding protein 1) (Fragment).
M68971	3861	P27881	3862	AF148513	3863	P52789	3864	94	Hexokinase 2	M68971 Rat hexokinase type II (HKII) mRNA, complete cds /cds=(197,2850) /gb=M68971 /gi=204612 /ug=Rn.22813 /len=3635		Hexokinase type II (EC 2.7.1.1) (HK II).
M73714	3865	P30839	3866	XM_045058	XP_045058			84	aldehyde dehydrogenase 9	M73714 Rat microsomal aldehyde dehydrogenase mRNA, complete cds /cds=(123,1577) /gb=M73714 /gi=205265 /ug=Rn.9113 /len=2977	CYTOPLASMIC SURFACE OF THE ENDOPLASMIC RETICULUM MEMBRANE. 3."	"Fatty aldehyde dehydrogenase (EC 1.2.1.3) (Aldehyde dehydrogenase, microsomal) (ALDH class 3)." (Fragment).

Table 2.

M73808	3867	P31325	3868	NM_006213	3869	Q16816	3870	60	phosphorylase kinase catalytic subunit	M73808 mRNA Rat phosphorylase kinase catalytic subunit mRNA, complete CDS /cds=UNKNOWN /gb=M73808 /gi=206163 /ug=Rn.11153 /len=1836	"Phosphorylase B kinase gamma catalytic chain, testis/liver isoform (EC 2.7.1.38) (PHK-gamma-T) (Phosphorylase kinase gamma subunit 2)."
M74223	3871	P20156	3872	BF223121	3873	g5630085		94.34	VGf nerve growth factor inducible	M74223 Rat VGf mRNA, complete cds /cds=(183,2036) /gb=M74223 /gi=207650 /ug=Rn.9704 /len=2507	Neurosecretory protein VGf precursor (VGf8a protein).
M74439	3874	AAA42314	3875	NM_001077	3876	O75795	3877	66	UDP glucuronosyltransferase gene, complete cds	M74439 mRNA RATUDPGV Rattus rattus UDP glucuronosyltransferase gene, complete cds	
M74494	3878	P06685	3879	D00099	3880	P05023	3881	86	ATPase, Na+K+ transporting, alpha 1 polypeptide	M74494 Rat sodium/potassium ATPase alpha-1 subunit truncated isoform mRNA, 3 end /cds=(0,731) /gb=M74494 /gi=205629 /ug=Rn.2992 /len=936	Sodium/potassium-transporting ATPase alpha-1 chain precursor (EC 3.6.3.9) (Sodium pump 1) (Na+/K+ ATPase 1).

Table 2.

M74494	3882	P06685	3883	D00089	3884	P05023	3885	96	ATPase, Na+K+ transporting, alpha 1 polypeptide		M74494 Rat sodium/potassium ATPase alpha-1 subunit truncated isoform mRNA, 3 end /cds=(0,731) /gb=M74494 /gi=205629 /ug=Rn.2892 /len=936	Integral membrane protein.	Sodium/potassium-transporting ATPase alpha-1 chain precursor(EC 3.6.3.9) (Sodium pump 1) (Na+/K+ ATPase 1).
M75153	3886	P24410	3887	X53143	3888	P24410	3889	94.94	RAB11a, member RAS oncogene family		M75153 R.norvegicus ras p21-like small GTP-binding protein (24KG) mRNA, complete cds /cds=(0,650) /gb=M75153 /gi=208566 /ug=Rn.1016 /len=895		Ras-related protein Rab-11A (RAB-11) (24KG) (YLB).
M75153	3890	P24410	3891	X53143	3892	P24410	3893	94.94	RAB11a, member RAS oncogene family		M75153 R.norvegicus ras p21-like small GTP-binding protein (24KG) mRNA, complete cds /cds=(0,650) /gb=M75153 /gi=208566 /ug=Rn.1016 /len=895		Ras-related protein Rab-11A (RAB-11) (24KG) (YLB).
M75168	3894	Q63413	3895	AK026762	3896	NP_004631	3897	93.68	Rattus norvegicus liver nuclear protein p47	AA892014	M75168 Rattus norvegicus liver nuclear protein p47 mRNA /cds=(99,1298) /gb=M75168 /gi=205841 /ug=Rn.3516 /len=1643	Nuclear.	Probable ATP-dependent RNA helicase p47.
M75168	3898	Q63413	3899	AK026762	3900	NP_004631	3901	93.68	liver nuclear protein p47		M75168 Rattus norvegicus liver nuclear protein p47 mRNA /cds=(99,1298) /gb=M75168 /gi=205841 /ug=Rn.3516 /len=1643	Nuclear.	Probable ATP-dependent RNA helicase p47.
M76426	3902	P46101	3903	M96860	3904	P42658	3905	93	Dipeptidyl peptidase 6		M76426 Rattus norvegicus dipeptidyl aminopeptidase-related protein (dpp6) mRNA, complete cds /cds=(187,2776) /gb=M76426 /gi=408713 /ug=Rn.10076 /len=2819	Type II membrane protein.	Dipeptidyl peptidase IV like protein (Dipeptidyl aminopeptidase-related protein) (Dipeptidyl peptidase VI) (DPPX).

Table 2.

M76426	3906	P46101	3907	M96860	3908	P42658	3909	93	Dipeptidyl/peptidase 6	M76426 Rattus norvegicus dipeptidyl aminopeptidase-related protein (dpp6) mRNA, complete cds /cds=(197,2776) /gb=M76426 /gi=408713 /ug=Rn.10076 /len=2819	Type II membrane protein.	Dipeptidyl peptidase IV like protein (Dipeptidyl aminopeptidase-related protein) (Dipeptidyl/peptidase VI) (DPPX).
M76740	3910	AAA416 42	3911	AF007194	3912	AAC022 72	3913	55	Rat intestinal mucin mRNA, partial cds	M76740 RATMUCINI Rat Intestinal mucin mRNA, partial cds		
M76740	3914	AAA416 42	3915	AF007194	3916	AAC022 72	3917	55	Rat intestinal mucin mRNA, partial cds	M76740 RATMUCINI Rat Intestinal mucin mRNA, partial cds		
M77245	3918	P52303	3919	L13939	3920	Q10567	3921	96	Adaptor protein complex AP-1, beta 1 subunit	M77245 R.norvegicus beta -chain clathrin associated protein complex AP-1 mRNA, complete cds /cds=(39,2888) /gb=M77245 /gi=203112 /ug=Rn.9466 /len=3663	Component of the coat surrounding the cytoplasmic face of coated vesicles located at the Golgi complex.	Adaptor-related protein complex 1 beta 1 subunit (Beta-adaptin 1)(Adaptor protein complex AP-1 beta-1 subunit) (Golgi adaptor HA1/AP1adaptn beta subunit) (Clathrin assembly protein complex 1 beta1arg

Table 2.

M77694	3922	P25093	3923	X51728	3924	P16930	3925	85.26	fumarylacetate hydrolase (FAH)	M77694 R.norvegicus fumarylacetate hydrolase (FAH) mRNA, complete cds /cds=(22,1281) /gb=M77694 /gi=204089 /ug=Rn.9185 /len=1373	Fumarylacetate hydrolase (EC 3.7.1.2) (Fumarylacetate hydrolase)(Beta- diketonase) (FAA).
M80367	3926	AAA199 09	3927	M55542	3928	P32455	3929	88.73	isoprenylated 67 kDa protein	M80367 Rat isoprenylated 67 kDa protein mRNA, complete cds /cds=(172,1947) /gb=M80367 /gi=207604 /ug=Rn.7932 /len=2386	
M80601	3930	P47816	3931	AK055180	3932	g379D13 3		87.27	Programmed cell death 2	M80601 Rat zinc finger protein (RP8) mRNA, 3' end /cds=(0,863) /gb=M80601 /gi=206717 /ug=Rn.6959 /len=912	Programmed cell death protein 2 (Zinc finger protein Rp-8) (Fragment).
M80804	3933	Q84319	3934	L11696	3935	Q07837	3936	82.89	Rattus norvegicus unknown mRNA	M80804 RATSTRAP Rat protein which stimulates transport of cysteine and dibasic and neutral amino acids mRNA, complete cds	"Neutral and basic amino acid transport protein rBAT (B(0,+)- typeamino acid transport protein) (NAA- TR) (D2)."
M81642	3937	P26824	3938	M62424	3939	P25116	3940	77	Thrombin receptor	M81642 Rat G-protein coupled thrombin receptor mRNA, complete cds /cds=(73,1371) /gb=M81642 /gi=207485 /ug=Rn.2609 /len=3418	Proteinase activated receptor 1 precursor (PAR- 1) (Thrombin receptor).
M81642	3941	P26824	3942	M62424	3943	P25116	3944	77	Thrombin receptor	M81642 Rat G-protein coupled thrombin receptor mRNA, complete cds /cds=(73,1371) /gb=M81642 /gi=207485 /ug=Rn.2609 /len=3418	Proteinase activated receptor 1 precursor (PAR- 1) (Thrombin receptor).



Table 2.

M81687	3945	P34900	3946	AI373958	3947	P34741	3948	90.2	core protein (HSPG)	M81687 Rat core protein (HSPG) mRNA, complete cds /cds=(353,988) /gb=M81687 /gi=204668 /ug=Rn.11127 /len=2153	Type I membrane protein.	Syndecan-2 precursor (Fibroglycan) (Heparan sulfate proteoglycan coreprotein) (HSPG) (SYND2).
M82828	3949	AAA416 91	3950	XM_05012 1	XP_050 121	99	Rattus leucopus neurofibromat osis protein type I (NF1, type III splice variant) mRNA, 3' end	M82826 RATNF1ASAC Rattus leucopus neurofibromatosis protein type I (NF1, type III splice variant) mRNA, 3 end				
M82826	3951	AAA416 91	3952	XM_05012 1	XP_050 121	99	Rattus leucopus neurofibromat osis protein type I (NF1, type III splice variant) mRNA, 3' end	M82826 RATNF1ASAC Rattus leucopus neurofibromatosis protein type I (NF1, type III splice variant) mRNA, 3 end				
M83107	3953	P31232	3954	XM_00843 2	XP_006 432	97	SM22	M83107 Rat SM22 mRNA, complete cds /cds=(162,767) /gb=M83107 /gi=202982 /ug=Rn.774 /len=1169	Cytoplasmic.	Transgelin (Smooth muscle protein 22- alpha) (SM22- alpha).		

Table 2.

M83288	3957	P36876	3958	BM01489	3959	NP_002708	3960	93.3	Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha	D14419	M83288 Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha mRNA, complete cds /cds=(284,1627) /gb=M83288 /gi=206298 /ug=Rn.2166 /len=2142	"Serine/threonine protein phosphatase 2A, 55 kDa regulatory subunit B, alpha isoform (PP2A, subunit B, B-alpha isoform) (PP2A, B, B55-alpha isoform) (PP2A, subunit B, PR55-alpha isoform) (PP2A, su"
M83288	3961	P36876	3962	BM01489	3963	NP_002708	3964	93.3	Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha	D14419	M83288 Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha mRNA, complete cds /cds=(284,1627) /gb=M83288 /gi=206298 /ug=Rn.2166 /len=2142	"Serine/threonine protein phosphatase 2A, 55 kDa regulatory subunit B, alpha isoform (PP2A, subunit B, B-alpha isoform) (PP2A, subunit B, B55-alpha isoform) (PP2A, subunit B, PR55-alpha isoform) (PP2A, su"

Table 2.

M83298	3965	P36876	3966	BM01489 3	3967	NP_002 708	3968	93.3	Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha	D14419	M83298 Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha mRNA, complete cds /cds=(284,1627) /gb=M83298 /gi=206298 /ug=Rn.2166 /len=2142	"Serine/threonin e protein phosphatase 2A, 55 kDa regulatory subunit B, alpha isoform (PP2A, subunit B, B- alpha isoform) (PP2A, subunit B, B55-alpha isoform) (PP2A, subunit B, PR55 alpha isoform) (PP2A, su"
M83298	3969	P36876	3970	BM01489 3	3971	NP_002 708	3972	93.3	Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha	D14419	M83298 Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha mRNA, complete cds /cds=(284,1627) /gb=M83298 /gi=206298 /ug=Rn.2166 /len=2142	"Serine/threonin e protein phosphatase 2A, 55 kDa regulatory subunit B, alpha isoform (PP2A, subunit B, B- alpha isoform) (PP2A, subunit B, B55-alpha isoform) (PP2A, subunit B, PR55 alpha isoform) (PP2A, su"

Table 2.

M83298	3973	P36876	3974	BM01489 3	3975	NP_002 708	3976	93.3	Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha	D14419	M83298 Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha mRNA, complete cds /cds=(284,1627) /gb=M83298 /gi=206298 /ug=Rn.2166 /len=2142	"Serine/threonin e protein phosphatase 2A, 55 kDa regulatory subunit B, alpha isoform (PP2A, subunit B, B- alpha isoform) (PP2A, subunit B, B55-alpha isoform) (PP2A, subunit B, PR55 alpha isoform) (PP2A,su"
M83298	3977	P36876	3978	BM01489 3	3979	NP_002 708	3980	93.3	Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha	D14419	M83298 Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha mRNA, complete cds /cds=(284,1627) /gb=M83298 /gi=206298 /ug=Rn.2166 /len=2142	"Serine/threonin e protein phosphatase 2A, 55 kDa regulatory subunit B, alpha isoform (PP2A, subunit B, B- alpha isoform) (PP2A, subunit B, B55-alpha isoform) (PP2A, subunit B, PR55 alpha isoform) (PP2A,su"

	3981	P22756	3982	U16125	3983	P39086	3984	97	Glutamate receptor, ionotropic, kainate 1		M83561 Rattus norvegicus glutamate receptor subunit 5-2 (GluR5-2), kainate subtype mRNA, complete cds /cds=(187,2904) /gb=M83561 /gi=204389 /ug=Rn.10449 /len=3185	Integral membrane protein.	*Glutamate receptor, ionotropic kainate 1 precursor (Glutamate receptors) (GLUR-5) (GluR5).*
M83561	3985	P22756	3986	U16125	3987	P39086	3988	97	Glutamate receptor, ionotropic, kainate 1		M83561 Rattus norvegicus glutamate receptor subunit 5-2 (GluR5-2), kainate subtype mRNA, complete cds /cds=(187,2904) /gb=M83561 /gi=204389 /ug=Rn.10449 /len=3185	Integral membrane protein.	*Glutamate receptor, ionotropic kainate 1 precursor (Glutamate receptors) (GLUR-5) (GluR5).*
M83675	3989	P35280	3990	X56741	3991	P24407	3992	89.8	RAB8		M83675 Sprague-Dawley (clone LRB11) RAB8 mRNA, complete cds /cds=(27,404) /gb=M83675 /gi=206540 /ug=Rn.9823 /len=840		Ras-related protein Rab-8 (Fragment).
M83678	3993	P35286	3994	X75593	3995	P51153	3998	90	RAB13		M83678 Sprague-Dawley (clone LRB10) RAB13 mRNA, 3 end /cds=(0,494) /gb=M83678 /gi=206532 /ug=Rn.9819 /len=857		Ras-related protein Rab-13 (Fragment).
M83679	3997	AAA419_95	3998	XM_05052_5		XP_050525		52	RAB15		M83679 Sprague-Dawley (clone LRB9) RAB15 mRNA, complete cds /cds=(219,857) /gb=M83679 /gi=206536 /ug=Rn.9821 /len=945		
M83681	3999	Q63942	4000	NM_0042_83	4001	O95716	4002	88	RAB16		M83681 Sprague-Dawley (clone LRB2) RAB16 mRNA, complete cds /cds=(0,596) /gb=M83681 /gi=206538 /ug=Rn.9822 /len=1889		GTP-binding protein Rab-3D.
M83740	4003	CAA05587	4004	NM_0002_81	4005	P80095	4006	100	Dimerization cofactor of HNF1; pterin-4a-carbinolamin dehydratase	AJ005542	M83740 RATHOMEOA Rat cofactor mRNA sequence		

Table 2.

M83746	4007	P28841	4008	BC005815	4009	P16519	4010	90.1	Proprotein convertase subtilisin/kexin type 2	M83746 Rat homologue of Kex2 and furin proteins mRNA, complete cds /cds=(284,2210) /gb=M83746 /gi=205064 /ug=Rn.9889 /len=2428	LOCALIZED IN THE SECRETION GRANULES.	Neuroendocrine convertase 2 precursor (EC 3.4.21.94) (NEC 2) (PC2)(Prohormone convertase 2) (Proprotein convertase 2) (KEX2- like endoprotease 2).
M84719	4011	P36365	4012	M84082	4013	Q01740	4014	82	Flavin- containing monooxygenase 1	M84719 Rat flavin-containing monooxygenase 1 (FMO-1) mRNA, complete cds /cds=(44,1642) /gb=M84719 /gi=204151 /ug=Rn.867 /len=2042	Microsomal.	Dimethylaniline monooxygenase [N-oxide forming] 1 (EC 1.14.13.8)(Hepa containing flavin- monooxygenase 1) (FMO 1) (Dimethylaniline oxidase 1).
M86235	4015	S32426	4016	X78678	4017	P50053	4018	79	Ketohexokinase	M86235 Rat ketohexokinase mRNA, complete cds /cds=(48,944) /gb=M86235 /gi=409148 /ug=Rn.9888 /len=1131		
M86564	4019	P06302	4020	AI859111	4021	XP_038 338		93.72	alpha- prothymosin	M86564 Rat alpha-prothymosin mRNA, complete cds /cds=(146,484) /gb=M86564 /gi=202985 /ug=Rn.817 /len=1182	Nuclear.	Prothymosin alpha.
M86912	4022	CAA44 183	4023	D13814	4024	P30556	4025		Rat angiotensin receptor (AT1) gene, single exon	M86912 axon RATAT1B Rat angiotensin receptor (AT1) gene, single exon		

Table 2.

M88751	4026	P54287	4027	X76556	4028	P54284	4029	93.76	Calcium channel subunit beta 3	M88751 Rat calcium channel beta subunit-III mRNA, complete cds /cds=(93,1547) /gb=M88751 /gi=203221 /ug=Rn.2808 /len=2525	"Dihydropyridine sensitive L-type, calcium channel beta-3 subunit(CAB3) (Voltage-dependent calcium channel beta-3 subunit)." "
M89953	4030	AAA40614	4031	NIM_000864	4032	P28221	4033	83	5-Hydroxytryptamine (serotonin) receptor 1D	M89953cds RAT5HT1D Rattus norvegicus 5-HT1D serotonin receptor gene, complete cds	
M90518	4034	P31423	4035	U92457	4036	Q14833	4037	90.07	Glutamate receptor, metabotropic 4	M90518 Rat metabotropic glutamate receptor (GLUR4) mRNA, complete cds /cds=(854,3592) /gb=M90518 /gi=205400 /ug=Rn.9682 /len=4488	Metabotropic glutamate receptor 4 precursor (mGluR4).
M90518	4038	P31423	4039	U92457	4040	Q14833	4041	90.07	Glutamate receptor, metabotropic 4	M90518 Rat metabotropic glutamate receptor (GLUR4) mRNA, complete cds /cds=(854,3592) /gb=M90518 /gi=205400 /ug=Rn.9682 /len=4488	Metabotropic glutamate receptor 4 precursor (mGluR4).
M91234	4042	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			VL30	M91234 Rat VL30 element mRNA /cds=UNKNOWN /gb=M91234 /gi=207671 /ug=Rn.18005 /len=1131	Adenosine A2b receptor.
M91466	4043	P29276	4044	M97759	4045	P29275	4046	86.92	A2b-adenosine receptor mRNA	M91466 Rattus norvegicus A2b-adenosine receptor mRNA, complete cds /cds=(107,1105) /gb=M91466 /gi=202587 /ug=Rn.10428 /len=1839	Adenosine A2b receptor.
M91590	4047	P29067	4048	AF106941	4049	P32121	4050	90.87	beta-arrestin2.	M91590 Rat beta-arrestin2 mRNA, complete cds /cds=(191,1423) /gb=M91590 /gi=949986 /ug=Rn.25040 /len=1758	"Beta-arrestin 2 (Arrestin, beta 2)." "

Table 2.

M91590	4051	P28057	4052	AF106941	4053	P32121	4054	90.67	beta-arrestin2.	M91590 Rat beta-arrestin2 mRNA, complete cds /cds=(191,1423) /gb=M91590 /gi=949988 /lug=Rn.25040 /len=1758	"Beta-arrestin 2 (Arrestin, beta 2)." "
M91595	4055	AAA918 98	4056	XM_00283 6	4057	XP_002 636	4058	64	Insulin-like growth factor binding protein 2 gene, exon 1	M91595exon RATILGF8PA Rattus norvegicus Insulin-like growth factor binding protein-2 gene, exon 1	
M91595	4059	AAA918 99	4060	XM_00283 6	4061	XP_002 636	4062	64	Insulin-like growth factor binding protein 2 gene, exon 1	M91595exon RATILGF8PA Rattus norvegicus Insulin-like growth factor binding protein-2 gene, exon 1	
M91599	4063	AAA411 57	4064	NM_0020 11	4065	P22455	4066	83	Fibroblast growth factor receptor subtype 4	M91599mRNA RATFGRAA Rat fibroblast growth factor receptor subtype 4 (FGFR4) mRNA, complete cds	
M91599	4067	AAA411 57	4068	Y13901	4069	CAA742 00	4070	83	fibroblast growth factor receptor subtype 4 (FGFR4)	M91599mRNA RATFGRAA Rat fibroblast growth factor receptor subtype 4 (FGFR4) mRNA, complete cds	
M91599	4071	AAA411 57	4072	NM_0020 11	4073	P22455	4074	83	Fibroblast growth factor receptor subtype 4	M91599mRNA RATFGRAA Rat fibroblast growth factor receptor subtype 4 (FGFR4) mRNA, complete cds	
M91599	4075	AAA411 57	4076	Y13901	4077	CAA742 00	4078	83	fibroblast growth factor receptor subtype 4 (FGFR4)	M91599mRNA RATFGRAA Rat fibroblast growth factor receptor subtype 4 (FGFR4) mRNA, complete cds	



Table 2.

M91652	4082	4081	P15104	4082	92	Glutamine synthetase (glutamate- ammonia ligase)	M91652completeSeq Rat glutamine synthetase (glnA) mRNA, complete cds /cds=UNKNOWN /gb=M91652 /gi=204348 /ug=Rn.2204 /len=2793	Cytoplasmic.	Glutamine synthetase (EC 6.3.1.2) (Glutamate- ammonia ligase).
M91652	4083	4085	P15104	4086	92	Glutamine synthetase (glutamate- ammonia ligase)	M91652completeSeq Rat glutamine synthetase (glnA) mRNA, complete cds /cds=UNKNOWN /gb=M91652 /gi=204348 /ug=Rn.2204 /len=2793	Cytoplasmic.	Glutamine synthetase (EC 6.3.1.2) (Glutamate- ammonia ligase).
M91802	4087	4089	NP_006726	4090	95.69	Homeobox protein (Hox 1.11)	M91802 Rattus norvegicus homeobox protein (Hox 1.11) mRNA, complete cds /cds=(194,1312) /gb=M91802 /gi=204641 /ug=Rn.11240 /len=1576	Nuclear.	Homeobox protein Hox-A2 (Hox-1.11).
M92059	4091	4093	P00746	4094	64	Adipsin	M92059 RATADPSNP Rattus norvegicus adipsin mRNA sequence		
M92340	4095	4097	P40189	4098	92.7	Rat (clones rLG08,14,25) Interleukin 6 signal transducer mRNA	M92340 RATGP130A Rat (clones rLG08,14,25) Interleukin 6 signal transducer mRNA sequence	Type I membrane protein.	Interleukin-6 receptor beta chain precursor (IL-6R-beta) (Interleukin6 signal transducer) (Membrane glycoprotein 130) (GP130).
M93017	4099	4101	P88194	4102	81.44	alternatively spliced mRNA	M93017 Rat alternatively spliced mRNA /cds=(176,2937) /gb=M93017 /gi=202861 /ug=Rn.5805 /len=4625	Integral membrane protein.	"Calcium-transporting ATPase type 2C, member 1 (EC 3.6.3.8) (ATPase2C1) (ATP-dependent Ca2+ pump PMR1)".

Table 2.

M93257	4103	CAA78 276	4104	XM_03379 9	XP_033 789		79	cathechol-O- methyltransferase	Z12651	M93257 RATSLCCOMT Rattus norvegicus cathechol-O-methyltransferase mRNA, 3 flank		
M93297	4105	AAA420 61	4106	NM_0002 74	P04181	4108	86	ornithine amino transferase		M93297cds RATROAT04 Rattus norvegicus ornithine aminotransferase (ROAT) gene, exon 7	Mitochondrial	"Methylmalonate se- semialdehyde dehydrogenase [acylating], mitochondrialpr ecursor (EC 1.2.1.27) (MMSDH)." "
M93401	4109	Q02253	4110	AK026842	Q02252	4112	96.08	Methylmalonate se- semialdehyde dehydrogenase		M93401 Rattus norvegicus methylmalonate semialdehyde dehydrogenase gene, complete cds /cds=(81,1688) /gb=M93401 /gi=2055525 /ug=Rn.1645 /len=2059		
M93661	4113	Q8QW3 0	4114	AA725658	AAA363 77	4116	91.95	Notch gene homolog 2, (Drosophila) [Rattus norvegicus].	NM_02435 8	M93661 Rat notch 2 mRNA /cds=UNKNOWN /gb=M93661 /gi=205753 /ug=Rn.13245 /len=8287	Type I membrane protein. Following proteolytical processing NICD is translocated to the nucleus.	Neurogenic locus notch homolog protein 2 precursor (Notch 2).
M93669	4117	P10362	4118	BC022509	P13521	4120	83.93	Secretogranin II		M93669 Rat secretogranin II mRNA, complete cds /cds=(30,1889) /gb=M93669 /gi=206902 /ug=Rn.11392 /len=2289	Neuroendocrine and endocrine secretory granules.	Secretogranin II precursor (SGII) (Chromogranin C).
M94537	4121	Q01066	4122	U56976	Q01064	4124	80.32	Cyclic nucleotide phosphodiesterase (CaM-PDE)		M94537 Rattus rattus cyclic nucleotide phosphodiesterase (CaM-PDE) mRNA, complete cds /cds=(74,1681) /gb=M94537 /gi=203268 /ug=Rn.9930 /len=1831	Cytoplasmic.	"Calcium/calmodulin-dependent 3',5'-cyclic nucleotide phosphodiesterase1B (EC 3.1.4.17) (Cam-PDE 1B) (63 kDa Cam-PDE)." "

Table 2.

M94555	4125	P12760	4126	BC012908	4127	P48645	4128	82.45	Neuromedin U mRNA	M94555 Rat neuromedin U mRNA, complete cds /cds=(112,636) /gb=M94555 /gi=205745 /ug=Rn.9712 /len=707	Secreted.	Neuromedin U-23 precursor (NmU-23).
M95591	4129	Q02769	4130	S76822	4131	P37268	4132	86	Farnesyl diphosphate farnesyl transferase 1	M95591 RATSST Rattus rattus hepatic squalene synthetase mRNA, complete cds	Integral membrane protein. Endoplasmic reticulum.	Farnesyl-diphosphate farnesyltransferase (EC 2.5.1.21) (Squalenesynthetase) (SQS) (SS) (FPP:FPP farnesyltransferase).
M95591	4133	Q02769	4134	S76822	4135	P37268	4136	86	Farnesyl diphosphate farnesyl transferase 1	M95591 RATSST Rattus rattus hepatic squalene synthetase mRNA, complete cds	Integral membrane protein. Endoplasmic reticulum.	Farnesyl-diphosphate farnesyltransferase (EC 2.5.1.21) (Squalenesynthetase) (SQS) (SS) (FPP:FPP farnesyltransferase).
M95591	4137	Q02769	4138	S76822	4139	P37268	4140	86	Farnesyl diphosphate farnesyl transferase 1	M95591 RATSST Rattus rattus hepatic squalene synthetase mRNA, complete cds	Integral membrane protein. Endoplasmic reticulum.	Farnesyl-diphosphate farnesyltransferase (EC 2.5.1.21) (Squalenesynthetase) (SQS) (SS) (FPP:FPP farnesyltransferase).

Table 2.

M95591	4141	Q02769	4142	S76822	4143	P37268	4144	86	Farnesyl diphosphate farnesyl transferase 1	M95591 RAT SST Rattus rattus hepatic squalene synthetase mRNA, complete cds	Integral membrane protein. Endoplasmic reticulum.	Farnesyl- diphosphate farnesyltransfer- ase (EC 2.5.1.21) (Squalenesynth- etase) (SQS) (SS) (FPP:FPP farnesyltransfer- ase).
M95768	4145	Q01460	4146	NIM_0043 88	4147	Q01459	4148	82	di-N- acetylchitobias- e	M95768 Rattus norvegicus di-N- acetylchitobias mRNA, complete cds /cds=(0,1103) /gb=M95768 /gi=203452 /ug=Rn.11189 /len=1616	Lysosomal.	DI-N- acetylchitobias- precursor (EC 3.2.1.-).
M96375	4149	Q63373	4150	AF064842	4151	P58400	4152	94.29	Non- processed neurexin I- beta	M96375 Rattus norvegicus non-processed neurexin I-beta mRNA, complete cds /cds=(822,2228) /gb=M96375 /gi=205712 /ug=Rn.8930 /len=2441	Type I membrane protein.	Neurexin I- precursor (Neurexin I- beta).
M96601	4153	P31643	4154	XM_04293 9	4155	XP_042 939	4156	87	Taurine transporter	M96601 Rattus norvegicus taurine transporter mRNA, complete cds /cds=(126,1991) /gb=M96601 /gi=207541 /ug=Rn.9968 /len=2476	Integral membrane protein.	Sodium- and chloride- dependent taurine transporter.
M96626	4157	Q64568	4158	U15689	4159	Q16720	4160	95.63	RAT plasma membrane CA2+-ATPase isoform 3 mRNA, partial cds	M96626 RAT plasma membrane CA2+- ATPase isoform 3 mRNA, partial cds /cds=(0,346) /gb=M96626 /gi=203212 /ug=Rn.11053 /len=608	Integral membrane protein.	Plasma membrane calcium- transporting ATPase 3 (EC 3.6.3.8) (PMCA3)(Plasm- a membrane calcium pump isoform 3) (Plasma membrane calciumATPase isoform 3).

Table 2.

M96626	4161	Q64568	4162	U15689	4163	Q16720	4164	95.63	RAT plasma membrane CA2+-ATPase isoform 3 mRNA, partial cds	M96626 RAT plasma membrane CA2+-ATPase isoform 3 mRNA, partial cds /cds=(0,346)/gb=M96626 /gi=203212 /ug=Rn.11053 /len=609	Integral membrane protein.	Plasma membrane calcium-transporting ATPase 3 (EC 3.6.3.8) (PMCA3)(Plasma a membrane calcium pump isoform 3) (Plasma membrane calciumATPase isoform 3).
M96626	4165	Q64568	4166	U15689	4167	Q16720	4168	95.63	RAT plasma membrane CA2+-ATPase isoform 3 mRNA, partial cds	M96626 RAT plasma membrane CA2+-ATPase isoform 3 mRNA, partial cds /cds=(0,346)/gb=M96626 /gi=203212 /ug=Rn.11053 /len=609	Integral membrane protein.	Plasma membrane calcium-transporting ATPase 3 (EC 3.6.3.8) (PMCA3)(Plasma a membrane calcium pump isoform 3) (Plasma membrane calciumATPase isoform 3).

Table 2.

M96626	4169	Q64568	4170	U15689	4171	Q16720	4172	95.63	RAT plasma membrane CA2+-ATPase isoform 3 mRNA, partial cds	M96626 RAT plasma membrane CA2+-ATPase isoform 3 mRNA, partial cds /cds=(0,346) /gb=M96626 /gi=203212 /ug=Rn.11053 /len=609	Integral membrane protein.	Plasma membrane calcium-transporting ATPase 3 (EC 3.6.3.8) (PMCA3)(Plasma membrane calcium pump isoform 3) (Plasma membrane calciumATPase isoform 3).
M96853	4173	P31016	4174	AF158495	4175	AAD56173	4176	99	Rat postsynaptic density protein (PSD-95), homologue of disc-large tumor suppressor protein	M96853 Rat postsynaptic density protein (PSD-95), homologue of disc-large tumor suppressor protein mRNA, complete cds /cds=(57,2231) /gb=M96853 /gi=206454 /ug=Rn.9765 /len=3066	CONCENTRATED AT SYNAPTIC JUNCTIONS PRIMARILY ON THE PRESYNAPTIC SIDE (WAS ORIGINALLY THOUGHT TO BE POSTSYNAPTIC).	"Presynaptic density protein 95 (PSD-95) (Presynaptic protein SAP90)(Synapsin-associated protein 90) (Discs, large homolog 4)."

Table 2.

M98853	4177	P31016	4178	AF156495	4179	AAD56173	4180	99	Rat postsynaptic density protein (PSD-95), homologue of discs-large tumor suppressor protein	M98853 Rat postsynaptic density protein (PSD-95), homologue of discs-large tumor suppressor protein mRNA, complete cds /gb=M98853 /gi=208454 /len=3066	CONCENTRATED AT SYNAPTIC JUNCTIONS PRIMARILY ON THE PRESYNAPTIC SIDE (WAS ORIGINALLY THOUGHT TO BE POSTSYNAPTIC).	"Presynaptic density protein 95 (PSD-95) (Presynaptic protein SAP90)(Synapse-associated protein 90) (Discs, large homologue 4)."
M98567	4181	A45493		NM_000932	4182	Q01970	4183	87.66	Rattus norvegicus phospholipase C beta-3 mRNA, partial cds	M9567 RATPHOCBE Rat phospholipase C beta-3 mRNA		
M9567	4184	A45493		NM_000932	4185	Q01970	4186	87.66	Rattus norvegicus phospholipase C beta-3 mRNA, partial cds	M9567 RATPHOCBE Rat phospholipase C beta-3 mRNA		
M9567	4187	A45493		NM_000932	4188	Q01970	4189	87.66	Rattus norvegicus phospholipase C beta-3 mRNA, partial cds	M9567 RATPHOCBE Rat phospholipase C beta-3 mRNA		
AA684919	4190	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)	rc_AA684919 EST105769 Rattus norvegicus cDNA, 3' end /clone=RPCAR53 /clone_end=3 /gb=AA684919 /gi=2671517 /ug=Rn.14682 /len=301		
AA685221	4191	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)	rc_AA685221 EST106628 Rattus norvegicus cDNA, 3' end /clone=RPCBE53 /clone_end=3 /gb=AA685221 /gi=2671819 /ug=Rn.14676 /len=325		

Table 2.

AA685974	4192	BAB25123	4193	BC013949	4194	AAH13949	4195	88.5	Hypothetical Protein			rc_AA685974 EST108806 Rattus norvegicus cDNA, 3' end /clone=RPNAH48 /clone_end=3 /gb=AA685974 /gi=2672572 /ug=Rn.14668 /len=371
AA686184	4198	AAH05598	4197	AF064603	4188	XP_006135	4189	92.14	Mus musculus, Similar to dendritic cell protein, clone MGC:11741 IMAGE:39693 35, mRNA, complete cds	BC005598		rc_AA686184 EST109401 Rattus norvegicus cDNA, 3' end /clone=RPNAH24 /clone_end=3 /gb=AA686184 /gi=2672762 /ug=Rn.3390 /len=373
AA799279	4200	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			Mus musculus adult male heart cDNA, RIKEN			rc_AA799279 EST188776 Rattus norvegicus cDNA, 3' end /clone=RHEAA06 /clone_end=3 /gb=AA799279 /gi=2862234 /ug=Rn.4182 /len=619
AA799279	4201	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			Mus musculus adult male heart cDNA, RIKEN			rc_AA799279 EST188776 Rattus norvegicus cDNA, 3' end /clone=RHEAA06 /clone_end=3 /gb=AA799279 /gi=2862234 /ug=Rn.4182 /len=619
AA799299	4202	P39069	4203	AB021871	4204	P00568	4205	85.94	Adenylate kinase 1	Cytoplasmic.		rc_AA799299 EST188796 Rattus norvegicus cDNA, 3' end /clone=RHEAA18 /clone_end=3 /gb=AA799299 /gi=2862254 /ug=Rn.8563 /len=508
AA799323	4206	NP_062422	4207	X07743	4208	P08567	4209	86.54	pleckstrin (Plek)	NM_019549		rc_AA799323 EST188820 Rattus norvegicus cDNA, 3' end /clone=RHEAA31 /clone_end=3 /gb=AA799323 /gi=2862278 /ug=Rn.6178 /len=328

Adenylate  
kinase  
Isoenzyme 1  
(EC 2.7.4.3)  
(ATP-AMP  
transphosphoryl  
ase)(AK1)  
(Myokinase)  
(Fragment).



Table 2.

AA7993 28	4210	No Rat Protein Found.		No human homolog found.	4214	XP_032 895	4215	91.76	Pelota	AF148638	rc_AA799328 EST188825 Rattus norvegicus cDNA, 3' end /clone=RHEAA34 /clone_end=3 /gb=AA799328 /gi=2862283 /ug=Rn.757 /len=637
AA7993 28	4211	No Rat Protein Found.		No human homolog found.					EST (not recognized)		rc_AA799328 EST188825 Rattus norvegicus cDNA, 3' end /clone=RHEAA34 /clone_end=3 /gb=AA799328 /gi=2862283 /ug=Rn.757 /len=637
AA7993 30	4212	AAK581 16	4213	NM_0159 46	4214			91.76	Pelota	AF148638	rc_AA799330 EST188827 Rattus norvegicus cDNA, 3' end /clone=RHEAA35 /clone_end=3 /gb=AA799330 /gi=2862285 /ug=Rn.3842 /len=617
AA7993 96	4216	No Rat Protein Found.		AF043896	4217	No Human Protein Found.		97	Mus musculus, clone IMAGE:35917 05		rc_AA799396 EST188893 Rattus norvegicus cDNA, 3' end /clone=RHEAA74 /clone_end=3 /gb=AA799396 /gi=2862351 /ug=Rn.263 /len=637
AA7993 96	4218	No Rat Protein Found.		AF043896	4219	No Human Protein Found.		97	Mus musculus, clone IMAGE:35917 05		rc_AA799396 EST188893 Rattus norvegicus cDNA, 3' end /clone=RHEAA74 /clone_end=3 /gb=AA799396 /gi=2862351 /ug=Rn.263 /len=637
AA7994 06	4220	No Rat Protein Found.		No human homolog found.					EST(not recognised)		rc_AA799406 EST188903 Rattus norvegicus cDNA, 3' end /clone=RHEAA79 /clone_end=3 /gb=AA799406 /gi=2862361 /ug=Rn.90 /len=591
AA7994 10	4221	No Rat Protein Found.		BC012458	4222	No Human Protein Found.		91.82	Homo sapiens, clone IMAGE:38609 08		rc_AA799410 EST188907 Rattus norvegicus cDNA, 3' end /clone=RHEAA81 /clone_end=3 /gb=AA799410 /gi=2862365 /ug=Rn.3326 /len=612
AA7994 10	4223	No Rat Protein Found.		BC012458	4224	No Human Protein Found.		91.82	Homo sapiens, clone IMAGE:38609 08		rc_AA799410 EST188907 Rattus norvegicus cDNA, 3' end /clone=RHEAA81 /clone_end=3 /gb=AA799410 /gi=2862365 /ug=Rn.3326 /len=612

Table 2.

AA7994 21	4225	KIRTCE	4226	X65293	4227	Q02156	4228	96	ESTs, Highly similar to PROTEIN KINASE C, EPSILON TYPE [R.norvegicus]		rc_AA799421 EST188918 Rattus norvegicus cDNA, 3' end /clone=RHEAA87 /clone_end=3 /gb=AA799421 /gi=2862376 /ug=Rn.19951 /len=570
AB0486 41	4229	BAB408 46	4230	NM_0140 78	4231	NP_054 797	4232	88.83	Mus musculus MRPL13 mRNA for mitochondrial ribosomal protein L13	AA799440	rc_AA799440 EST188937 Rattus norvegicus cDNA, 3' end /clone=RHEAB09 /clone_end=3 /gb=AA799440 /gi=2862395 /ug=Rn.6185 /len=705
AA7994 42	4233	No Rat Protein Found.		NM_0184 80	4234	No Human Protein Found.		82.89	Mus musculus 18 days embryo cDNA, RIKEN		rc_AA799442 EST188939 Rattus norvegicus cDNA, 3' end /clone=RHEAB11 /clone_end=3 /gb=AA799442 /gi=2862397 /ug=Rn.3826 /len=649
AA7994 42	4235	No Rat Protein Found.		NM_0184 80	4236	No Human Protein Found.		82.89	Mus musculus 18 days embryo cDNA, RIKEN		rc_AA799442 EST188939 Rattus norvegicus cDNA, 3' end /clone=RHEAB11 /clone_end=3 /gb=AA799442 /gi=2862397 /ug=Rn.3826 /len=649
AA7994 42	4237	No Rat Protein Found.		NM_0184 80	4238	AAF676 58	4239	82.89	EST (not recognized for rat)		rc_AA799442 EST188939 Rattus norvegicus cDNA, 3' end /clone=RHEAB11 /clone_end=3 /gb=AA799442 /gi=2862397 /ug=Rn.3826 /len=649
AA7994 42	4240	No Rat Protein Found.		NM_0184 80	4241	No Human Protein Found.		82.89	Mus musculus 18 days embryo cDNA, RIKEN		rc_AA799442 EST188939 Rattus norvegicus cDNA, 3' end /clone=RHEAB11 /clone_end=3 /gb=AA799442 /gi=2862397 /ug=Rn.3826 /len=649
AA7994 42	4242	No Rat Protein Found.		NM_0184 80	4243	No Human Protein Found.		82.89	Mus musculus 18 days embryo cDNA, RIKEN		rc_AA799442 EST188939 Rattus norvegicus cDNA, 3' end /clone=RHEAB11 /clone_end=3 /gb=AA799442 /gi=2862397 /ug=Rn.3826 /len=649

Table 2.

AA7994 42	4244	No Rat Protein Found.	NM_0184 80	4245	AAF676 58	4246	82.89	EST (not recognized for rat)		rc_AA799442 EST188939 Rattus norvegicus cDNA, 3' end /clone=RHEAB11 /clone_end=3 /gb=AA799442 /gi=2862397 /ug=Rn.3626 /len=649
AA7994 48	4247	No Rat Protein Found.	BF109813	4248	P13726	4249	96.15	EST(not recognised)		rc_AA799448 EST188945 Rattus norvegicus cDNA, 3' end /clone=RHEAB18 /clone_end=3 /gb=AA799448 /gi=2862403 /ug=Rn.8296 /len=615
AA7994 48	4250	No Rat Protein Found.	BF109813	4251	P13726	4252	96.15	EST (not recognised)		rc_AA799448 EST188945 Rattus norvegicus cDNA, 3' end /clone=RHEAB18 /clone_end=3 /gb=AA799448 /gi=2862403 /ug=Rn.8296 /len=615
AA7994 49	4253	NP_032 698	U77456	4255	Q99733	4256	87.5	Mus musculus nucleosome assembly protein 1-like 4 (Nap14)	NM_00867 2	rc_AA799449 EST188946 Rattus norvegicus cDNA, 3' end /clone=RHEAB19 /clone_end=3 /gb=AA799449 /gi=2862404 /ug=Rn.3286 /len=553
AA7994 49	4257	NP_032 698	U77456	4259	Q99733	4260	87.5	Mus musculus nucleosome assembly protein 1-like 4 (Nap14)	NM_00867 2	rc_AA799449 EST188946 Rattus norvegicus cDNA, 3' end /clone=RHEAB19 /clone_end=3 /gb=AA799449 /gi=2862404 /ug=Rn.3286 /len=553
AA7994 49	4261	NP_032 698	U77456	4263	Q99733	4264	87.5	Mus musculus nucleosome assembly protein 1-like 4 (Nap14)	NM_00867 2	rc_AA799449 EST188946 Rattus norvegicus cDNA, 3' end /clone=RHEAB19 /clone_end=3 /gb=AA799449 /gi=2862404 /ug=Rn.3286 /len=553
AA7994 85	4265	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			long interspersed repeated element LINE		rc_AA799465 EST188962 Rattus norvegicus cDNA, 3' end /clone=RHEAB36 /clone_end=3 /gb=AA799465 /gi=2862420 /ug=Rn.6188 /len=844

Table 2.

AA7994 67	4266	No Rat Protein Found.	4269	AA843228	4270	BC0010 06	4271	97.16	Homo sapiens, cytochrome c- 1, clone	AA799474	rc_AA799467 EST188964 Rattus norvegicus cDNA, 3' end /clone=RHEAB38 /clone_end=3 /gb=AA799467 /gi=2862422 /ug=Rn.4036 /len=568
AA7994 73	4267	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA799473 EST188970 Rattus norvegicus cDNA, 3' end /clone=RHEAB44 /clone_end=3 /gb=AA799473 /gi=2862428 /ug=Rn.2828 /len=577
AA7994 74	4268	BC0056 20	4269	AA843228	4270	BC0010 06	4271	97.16	Homo sapiens, cytochrome c- 1, clone	AA799474	rc_AA799474 EST188971 Rattus norvegicus cDNA, 3' end /clone=RHEAB45 /clone_end=3 /gb=AA799474 /gi=2862429 /ug=Rn.1413 /len=687
AA7994 75	4272	No Rat Protein Found.		BI769995	4273	No Human Protein Found.		88.74	Mus musculus 8 days embryo cDNA, RIKEN		rc_AA799475 EST188972 Rattus norvegicus cDNA, 3' end /clone=RHEAB46 /clone_end=3 /gb=AA799475 /gi=2862430 /ug=Rn.4281 /len=633
AA7994 79	4274	No Rat Protein Found.		U65579	4275	O00217	4276	92.96	NADH dehydrogenas e (ubiquinone) Fe-S protein 8 (23kD)		rc_AA799479 EST188976 Rattus norvegicus cDNA, 3' end /clone=RHEAB52 /clone_end=3 /gb=AA799479 /gi=2862434 /ug=Rn.3373 /len=681
AA7994 79	4277	No Rat Protein Found.		U65579	4278	O00217	4279	92.96	NADH dehydrogenas e (ubiquinone) Fe-S protein 8 (23kD)		rc_AA799479 EST188976 Rattus norvegicus cDNA, 3' end /clone=RHEAB52 /clone_end=3 /gb=AA799479 /gi=2862434 /ug=Rn.3373 /len=681
AA7994 81	4280	NP_068 676	4281	AF099032	4282	XP_051 181	4283	97.06	Ectoderm development (Eed),	NM_02187 6	rc_AA799481 EST188978 Rattus norvegicus cDNA, 3' end /clone=RHEAB54 /clone_end=3 /gb=AA799481 /gi=2862436 /ug=Rn.3939 /len=673

Table 2.

AA7994 87	4284	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)	rc_AA799487 EST188984 Rattus norvegicus cDNA, 3' end /clone=RHEAB63 /clone_end=3 /gb=AA799487 /gi=2862442 /ug=Rn.6192 /len=737	
AA7994 88	4285	No Rat Protein Found.	AK025159	4286	80.53 EST(not recognised)	rc_AA799488 EST188985 Rattus norvegicus cDNA, 3' end /clone=RHEAB64 /clone_end=3 /gb=AA799488 /gi=2862443 /ug=Rn.22211 /len=664	
AA7994 97	4287	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Mus musculus 18 days embryo cDNA, RIKEN	rc_AA799497 EST188994 Rattus norvegicus cDNA, 3' end /clone=RHEAB74 /clone_end=3 /gb=AA799497 /gi=2862452 /ug=Rn.3783 /len=513	
AA7994 97	4288	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Mus musculus 18 days embryo cDNA, RIKEN	rc_AA799497 EST188994 Rattus norvegicus cDNA, 3' end /clone=RHEAB74 /clone_end=3 /gb=AA799497 /gi=2862452 /ug=Rn.3783 /len=513	
AA7994 99	4289	NP_079 873	4290	4291	87.14 Homo sapiens NADH dehydrogenas e (ubiquinone) 1 beta subcomplex	rc_AA799499 EST188996 Rattus norvegicus cDNA, 3' end /clone=RHEAB77 /clone_end=3 /gb=AA799499 /gi=2862454 /ug=Rn.17057 /len=565	
AA7995 01	4293	Q83362	4294	4295	98.8 Homo sapiens ribosomal protein S4, X- linked	rc_AA799501 EST188998 Rattus norvegicus cDNA, 3' end /clone=RHEAB79 /clone_end=3 /gb=AA799501 /gi=2862456 /ug=Rn.90 /len=777	Mitochondrial inner membrane; matrix side.  NADH- ubiquinone oxidoreductase 13 kDa-B subunit (EC 1.6.5.3)(EC 1.6.99.3) (Complex I- 13Kd-B) (Cl- 13Kd-B) (Complex I subunit B13).

Table 2.

AA799507	4296	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Mus musculus 18 days embryo cDNA, RIKEN full-length enriched library, clone:1190010 C13	rc_AA799507 EST189004 Rattus norvegicus cDNA, 3' end /clone=RHEAB87 /clone_end=3 /gb=AA799507 /gi=2862462 /ug=Rn.1821 /len=707
AA799511	4297	No Rat Protein Found.	AK026373	4298 AAC080 39	99.24 Homo sapiens BAC clone CTB-119C2 from 7p15, complete sequence (similar to NFE2-related transcription factors)	rc_AA799511 EST189008 Rattus norvegicus cDNA, 3' end /clone=RHEAB95 /clone_end=3 /gb=AA799511 /gi=2862466 /ug=Rn.3624 /len=731
AA799511	4299	No Rat Protein Found.	AK026373	4300 AAC080 39	99.24 Homo sapiens BAC clone CTB-119C2 from 7p15, complete sequence (similar to NFE2-related transcription factors)	rc_AA799511 EST189008 Rattus norvegicus cDNA, 3' end /clone=RHEAB95 /clone_end=3 /gb=AA799511 /gi=2862466 /ug=Rn.3624 /len=731
AA799515	4301	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)	rc_AA799515 EST189012 Rattus norvegicus cDNA, 3' end /clone=RHEAC03 /clone_end=3 /gb=AA799515 /gi=2862470 /ug=Rn.4053 /len=601

Table 2.

AA7985 25	4302	NP_078 634	4303	IL04490	4304	Q16795	4305	83	ESTs, Moderately similar to NUEM_HUMA N NADH- UBIQUINONE OXIDOREDU CTASE 39 KOA SUBUNIT PRECURSOR [H.sapiens]	BC013617	rc_AA798525 EST189022 Rattus norvegicus cDNA, 3' end /clone=RHEAC13 /clone_end=3 /gb=AA798525 /gl=2862480 /ug=Rn.1099 /len=573
AA7985 31	4308	AAH13 617	4307	AK000759	4308	XP_047 594	4309	90.07	Mus musculus, Similar to hypothetical protein, clone MGC:18941	BC013617	rc_AA798531 EST189028 Rattus norvegicus cDNA, 3' end /clone=RHEAC22 /clone_end=3 /gb=AA798531 /gl=2862486 /ug=Rn.6198 /len=570
AA7985 31	4310	AAH13 617	4311	AK000759	4312	XP_047 594	4313	90.07	Mus musculus, Similar to hypothetical protein, clone MGC:18941	BC013617	rc_AA798531 EST189028 Rattus norvegicus cDNA, 3' end /clone=RHEAC22 /clone_end=3 /gb=AA798531 /gl=2862486 /ug=Rn.6198 /len=570
AA7985 34	4314	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA798534 EST189031 Rattus norvegicus cDNA, 3' end /clone=RHEAC25 /clone_end=3 /gb=AA798534 /gl=2862489 /ug=Rn.8291 /len=558
AA7985 37	4315	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			Mus musculus 18 days embryo cDNA, RIKEN		rc_AA798537 EST189034 Rattus norvegicus cDNA, 3' end /clone=RHEAC28 /clone_end=3 /gb=AA798537 /gl=2862492 /ug=Rn.3798 /len=577

Table 2.

AA7995 39	4316	No Rat Protein Found.	AK000931	4317	NP_005 997	4318	94.31	ESTs, Weakly similar to 2118318A promyelocyte leukemia Zn finger protein [M.musculus]	rc_AA799539 EST189036 Rattus norvegicus cDNA, 3' end /clone=RHEAC31 /clone_end=3 /gb=AA799539 /gi=2862494 /ug=Rn.6200 /len=615
AA7995 42	4319	No Rat Protein Found.	AJ132695	4320	CAA107 33	4321		rac1 gene	rc_AA799542 EST189039 Rattus norvegicus cDNA, 3' end /clone=RHEAC34 /clone_end=3 /gb=AA799542 /gi=2862497 /ug=Rn.980 /len=553
AA7995 50	4322	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			Mus musculus RIKEN cDNA 9130413122 gene	rc_AA799550 EST189047 Rattus norvegicus cDNA, 3' end /clone=RHEAC44 /clone_end=3 /gb=AA799550 /gi=2862505 /ug=Rn.3393 /len=623
AA7995 51	4323	S08147	4324	4325	Q8BZG1	4326	95.39	ESTs, Weakly similar to S08147 GTP- binding protein rab1B - rat [R.norvegicus]	rc_AA799551 EST189048 Rattus norvegicus cDNA, 3' end /clone=RHEAC45 /clone_end=3 /gb=AA799551 /gi=2862506 /ug=Rn.11546 /len=616
AA7995 60	4327	No Rat Protein Found.	AK057843	4328	Q8UN36	4329	92.31	Mus musculus 18 days embryo cDNA, RIKEN	rc_AA799560 EST189057 Rattus norvegicus cDNA, 3' end /clone=RHEAC55 /clone_end=3 /gb=AA799560 /gi=2862515 /ug=Rn.3407 /len=604
AA7995 66	4330	AAK526 70	4331	4332	BC0093 96	4333	93.59	MMS19	rc_AA799566 EST189063 Rattus norvegicus cDNA, 3' end /clone=RHEAC61 /clone_end=3 /gb=AA799566 /gi=2862521 /ug=Rn.3521 /len=595



Table 2.

AA7995 66	4334	AAK526 70	4335	AK025496	4336	BC0093 96	4337	93.59	MMS19	AF319949	rc_AA799566 EST189063 Rattus norvegicus cDNA, 3' end /clone=RHEAC61 /clone_end=3 /gb=AA799566 /gi=2862521 /ug=Rn.3521 /len=595
AA7995 66	4338	AAK526 70	4339	AK025496	4340	BC0093 96	4341	93.59	MMS19	AF319949	rc_AA799566 EST189063 Rattus norvegicus cDNA, 3' end /clone=RHEAC61 /clone_end=3 /gb=AA799566 /gi=2862521 /ug=Rn.3521 /len=595
AA7995 66	4342	AAK526 70	4343	AK025496	4344	BC0093 96	4345	93.59	MMS19	AF319949	rc_AA799566 EST189063 Rattus norvegicus cDNA, 3' end /clone=RHEAC61 /clone_end=3 /gb=AA799566 /gi=2862521 /ug=Rn.3521 /len=595
AA7995 66	4346	AAK526 70	4347	AK025496	4348	BC0093 96	4349	93.59	MMS19	AF319949	rc_AA799566 EST189063 Rattus norvegicus cDNA, 3' end /clone=RHEAC61 /clone_end=3 /gb=AA799566 /gi=2862521 /ug=Rn.3521 /len=595
AA7995 66	4350	AAK526 70	4351	AK025496	4352	BC0093 96	4353	93.59	MMS19	AF319949	rc_AA799566 EST189063 Rattus norvegicus cDNA, 3' end /clone=RHEAC61 /clone_end=3 /gb=AA799566 /gi=2862521 /ug=Rn.3521 /len=595
AA7995 75	4354	P14925	4355	AF035320	4356	P19021	4357	91.74	Peptidylglycine alpha- amidating monooxygenase	X59689	rc_AA799575 EST189072 Rattus norvegicus cDNA, 3' end /clone=RHEAC71 /clone_end=3 /gb=AA799575 /gi=2862530 /ug=Rn.1121 /len=588
AA7995 93	4358	AAH08 517	4359	NM_0033 44	4360	P37286	4361	84	ubiquitin- conjugating enzyme E2H (homologous to yeast UBC8)	BC008517	rc_AA799593 EST189090 Rattus norvegicus cDNA, 3' end /clone=RHEAC88 /clone_end=3 /gb=AA799593 /gi=2862548 /ug=Rn.18453 /len=523

Peptidyl-glycine  
alpha-amidating  
monooxygenase  
precursor(EC  
1.14.17.3)  
(PAM).

Secretory  
granules.

Table 2.

AA798600	4362	P43035	4363	L13388	4364	S36113	33	ESTs, Weakly similar to LIS1 MOUSE PLATELET-ACTIVATING FACTOR ACETYLHYDROLASE IB ALPHA SUBUNIT [R.norvegicus]	rc_AA798600 EST189097 Rattus norvegicus cDNA, 3' end /clone=RHEAC96 /clone_end=3 /gb=AA798600 /gi=2862555 /ug=Rn.3774 /len=591
AA798601	4365	No Rat Protein Found.	AA731950	4366	No Human Protein Found.	97.92	Mus musculus 11 days pregnant adult female ovary and uterus cDNA, RIKEN full-length enriched library, clone:5033430 A12	rc_AA798601 EST189098 Rattus norvegicus cDNA, 3' end /clone=RHEAD03 /clone_end=3 /gb=AA798601 /gi=2862556 /ug=Rn.24537 /len=887	
AA798609	4367	No Rat Protein Found.	XM_012017	XP_012017	97	ESTs, Moderately similar to T43443 hypothetical protein DKFZp434A2315.1 [H.sapiens]	rc_AA798609 EST189106 Rattus norvegicus cDNA, 3' end /clone=RHEAD12 /clone_end=3 /gb=AA798609 /gi=2862564 /ug=Rn.8210 /len=663		

Table 2.

AA7996 09	4368	No Rat Protein Found.	4370	XM_012017	XP_012017	97	ESTs, Moderately similar to T43443 hypothetical protein DKFZp434A2 315.1 [H.sepiens]	U04308	rc_AA799609 EST189106 Rattus norvegicus cDNA, 3' end /clone=RHEAD12 /clone_end=3 /gb=AA799609 /gi=2862564 /ug=Rn.6210 /len=663	Ubiquitin- conjugating enzyme E2 B (EC 6.3.2.19) (Ubiquitin- protein ligase B) (Ubiquitin carrier protein B) (HR6B) (HR6B) (E2-17 kDa).
AA7996 12	4369	P23567	4370	BC005879	4371	P23567	4372	94.38	Rattus norvegicus 14 kDa ubiquitin conjugating enzyme gene, exon 6, partial cds	rc_AA799612 EST189109 Rattus norvegicus cDNA, 3' end /clone=RHEAD15 /clone_end=3 /gb=AA799612 /gi=2862567 /ug=Rn.3530 /len=708
AA7996 33	4373	BAB297 92	4374	BC006123	4375	XP_051263	4376	86.84	Homo sapiens hypothetical protein MGC13016	rc_AA799633 EST189130 Rattus norvegicus cDNA, 3' end /clone=RHEAD41 /clone_end=3 /gb=AA799633 /gi=2862588 /ug=Rn.6212 /len=539
AA7996 37	4377	AAD13 187	4378	U08284	4379	P48059	4380	95.65	ESTs, Weakly similar to A55071 hydrogen peroxide- inducible protein hlc-5 - mouse	rc_AA799637 EST189134 Rattus norvegicus cDNA, 3' end /clone=RHEAD45 /clone_end=3 /gb=AA799637 /gi=2862592 /ug=Rn.25425 /len=571

Table 2.

AA7996 37	4381	AAD13 197	4382	U09284	4383	P48059	4384	95.65	ESTs, weakly similar to A55071 hydrogen peroxide- inducible protein hlc-5 - mouse	AF085585	rc_AA799637 EST189134 Rattus norvegicus cDNA, 3' end /clone=RHEAD45 /clone_end=3 /gb=AA799637 /gi=2862592 /ug=Rn.25425 /len=571		
AA7996 41	4385	NP_036 162	4386	NM_0068 11	4387	NP_006 802	4388	87.72	Mus musculus tumor differentially expressed 1 (Tde1)	NM_01203 2	rc_AA799641 EST189138 Rattus norvegicus cDNA, 3' end /clone=RHEAD50 /clone_end=3 /gb=AA799641 /gi=2862596 /ug=Rn.3775 /len=665		
AA7996 41	4389	NP_036 162	4390	NM_0068 11	4391	NP_006 802	4392	87.72	Mus musculus tumor differentially expressed 1 (Tde1)	NM_01203 2	rc_AA799641 EST189138 Rattus norvegicus cDNA, 3' end /clone=RHEAD50 /clone_end=3 /gb=AA799641 /gi=2862596 /ug=Rn.3775 /len=665		
AA7996 45	4393	O08589	4394	U72245	4395	O00168	4396	61	FXVD domain- containing ion transport regulator 1	NM_03164 8	rc_AA799645 EST189142 Rattus norvegicus cDNA, 3' end /clone=RHEAD54 /clone_end=3 /gb=AA799645 /gi=2862600 /ug=Rn.3828 /len=591	Type I membrane protein.	Phospholipase precursor (FXVD domain- containing ion transportregulat or 1).
AA7996 45	4397	O08589	4398	U72245	4399	O00168	4400	61	FXVD domain- containing ion transport regulator 1	NM_03164 8	rc_AA799645 EST189142 Rattus norvegicus cDNA, 3' end /clone=RHEAD54 /clone_end=3 /gb=AA799645 /gi=2862600 /ug=Rn.3828 /len=591	Type I membrane protein.	Phospholipase precursor (FXVD domain- containing ion transportregulat or 1).
AA7996 50	4401	NP_071 985	4402	NM_0067 93	4403	P30048	4404	84	Peroxiredoxin 3	NM_02254 0	rc_AA799650 EST189147 Rattus norvegicus cDNA, 3' end /clone=RHEAD59 /clone_end=3 /gb=AA799650 /gi=2862605 /ug=Rn.2011 /len=593		

Table 2.

AA7986 54	4405	AAH10 776	4406	AL137631	4407	XP_038 053	87.73	Mus musculus, Similar to f. box and WD- 40 domain protein 5, clone MGC:18679 IMAGE:42115 92, mRNA, complete cds	BC010776	rc_AA798654 EST189151 Rattus norvegicus cDNA, 3' end /clone=RHEAD63 /clone_end=3 /gb=AA798654 /gi=2862609 /ug=Rn.8165 /len=520
AA7986 54	4408	AAH10 776	4409	AL137631	4410	XP_038 053	87.73	Mus musculus, Similar to f. box and WD- 40 domain protein 5, clone MGC:18679 IMAGE:42115 92, mRNA, complete cds	BC010776	rc_AA798654 EST189151 Rattus norvegicus cDNA, 3' end /clone=RHEAD63 /clone_end=3 /gb=AA798654 /gi=2862609 /ug=Rn.8165 /len=520
AA7986 56	4411	No Rat Protein Found.		Z68747	4412	No Human Protein Found.	87.97 4413	Mus musculus 10 days embryo cDNA, RIKEN		rc_AA798656 EST189153 Rattus norvegicus cDNA, 3' end /clone=RHEAD65 /clone_end=3 /gb=AA798656 /gi=2862611 /ug=Rn.22173 /len=610
AA7986 56	4414	CAA87 087	4415	Z68747	4416	CAA929 51	87.97 4417	Imogen 44	Z46966	rc_AA798656 EST189153 Rattus norvegicus cDNA, 3' end /clone=RHEAD65 /clone_end=3 /gb=AA798656 /gi=2862611 /ug=Rn.22173 /len=610
AA7986 56	4418	No Rat Protein Found.		Z68747	4419	No Human Protein Found.	87.97 4420	Mus musculus 10 days embryo cDNA, RIKEN		rc_AA798656 EST189153 Rattus norvegicus cDNA, 3' end /clone=RHEAD65 /clone_end=3 /gb=AA798656 /gi=2862611 /ug=Rn.22173 /len=610

Table 2.

AA7996 56	4421	CAA87 087	4422	Z68747	4423	CAA929 51	4424	87.97	Imogen 44	Z46966	rc_AA799656 EST189153 Rattus norvegicus cDNA, 3' end /clone=RHEAD65 /clone_end=3 /gb=AA799656 /gi=2862611 /ug=Rn.22173 /len=610
AA7996 57	4425	No Rat Protein Found.		NM_0066 83	4426	No Human Protein Found.		86.3	EST not recognized		rc_AA799657 EST189154 Rattus norvegicus cDNA, 3' end /clone=RHEAD86 /clone_end=3 /gb=AA799657 /gi=2862612 /ug=Rn.6214 /len=502
AA7996 63	4427	CAA52 612	4428	BG699621	4429	No Human Protein Found.		88.65	M.musculus T10 mRNA	X74504	rc_AA799663 EST189160 Rattus norvegicus cDNA, 3' end /clone=RHEAD74 /clone_end=3 /gb=AA799663 /gi=2862618 /ug=Rn.6216 /len=478
AA7996 63	4430	CAA52 612	4431	BG699621	4432	No Human Protein Found.		88.65	M.musculus T10	X74504	rc_AA799663 EST189160 Rattus norvegicus cDNA, 3' end /clone=RHEAD74 /clone_end=3 /gb=AA799663 /gi=2862618 /ug=Rn.6216 /len=478
AA7996 63	4433	CAA52 612	4434	BG699621	4435	No Human Protein Found.		88.65	M.musculus T10 mRNA	X74504	rc_AA799663 EST189160 Rattus norvegicus cDNA, 3' end /clone=RHEAD74 /clone_end=3 /gb=AA799663 /gi=2862618 /ug=Rn.6216 /len=478
AA7996 63	4436	CAA52 612	4437	BG699621	4438	No Human Protein Found.		88.65	M.musculus T10	X74504	rc_AA799663 EST189160 Rattus norvegicus cDNA, 3' end /clone=RHEAD74 /clone_end=3 /gb=AA799663 /gi=2862618 /ug=Rn.6216 /len=478
AA7996 67	4439	CAB56 623	4440	NM_0066 83	4441	NP_006 684	4442	98	Rattus norvegicus CDK106	Y17326	rc_AA799667 EST189164 Rattus norvegicus cDNA, 3' end /clone=RHEAD78 /clone_end=3 /gb=AA799667 /gi=2862622 /ug=Rn.22470 /len=541
AA7996 72	4443	P21533	4444	AA307406	4445	XP_050 942		91.09	ribosomal protein L6	X87107	rc_AA799672 EST189169 Rattus norvegicus cDNA, 3' end /clone=RHEAD83 /clone_end=3 /gb=AA799672 /gi=2862627 /ug=Rn.2660 /len=616

60S ribosomal  
protein L6  
(Neoplasm-  
related protein  
C140).

Table 2.

AA7986 81	4446	No Rat Protein Found.	No human homolog found.	No Human Protein Found.			EST(not recognised)		rc_AA798681 EST189178 Rattus norvegicus cDNA, 3' end /clone=RHEAD96 /clone_end=3 /gb=AA798681 /gi=2862636 /ug=Rn.20182 /len=461
AA7986 91	4447	AAD38 328	4448	XP_016 773	75	AF087436	putative potassium- chloride cotransporter- 4 (Kcc4)		rc_AA798681 EST189188 Rattus norvegicus cDNA, 3' end /clone=RHEAE11 /clone_end=3 /gb=AA798681 /gi=2862646 /ug=Rn.6967 /len=628
AA7987 00	4449	NP_033 292	4450	Q98611	4452	NM_00826 6	selenophosph ate synthetase 6 2 (Sps2)	78	rc_AA798700 EST189197 Rattus norvegicus cDNA, 3' end /clone=RHEAE21 /clone_end=3 /gb=AA798700 /gi=2862655 /ug=Rn.11447 /len=540
AA7987 11	4453	S12207	No human homolog found.	No Human Protein Found.			ESTs, Moderately similar to S12207 hypothetical protein [M.musculus]		rc_AA798711 EST189208 Rattus norvegicus cDNA, 3' end /clone=RHEAE37 /clone_end=3 /gb=AA798711 /gi=2862666 /ug=Rn.17142 /len=586
AA7987 11	4454	S12207	No human homolog found.	No Human Protein Found.			ESTs, Moderately similar to S12207 hypothetical protein [M.musculus]		rc_AA798711 EST189208 Rattus norvegicus cDNA, 3' end /clone=RHEAE37 /clone_end=3 /gb=AA798711 /gi=2862666 /ug=Rn.17142 /len=586
AA7987 18	4455	No Rat Protein Found.	AA806443	No Human Protein Found.	95.05		Mus musculus ES cells cDNA, RIKEN		rc_AA798718 EST189215 Rattus norvegicus cDNA, 3' end /clone=RHEAE44 /clone_end=3 /gb=AA798718 /gi=2862673 /ug=Rn.3816 /len=571
AA7987 24	4457	NP_033 113	4458	Q9Y2S0	4460	NM_00908 7	RNA polymerase 1- 3 (16 kDa subunit)	92.19	rc_AA798724 EST189221 Rattus norvegicus cDNA, 3' end /clone=RHEAE52 /clone_end=3 /gb=AA798724 /gi=2862679 /ug=Rn.6228 /len=638
AA7987 26	4461	No Rat Protein Found.	AB051524	No Human Protein Found.	86.89		Mus musculus adult male tongue cDNA, RIKEN		rc_AA798726 EST189223 Rattus norvegicus cDNA, 3' end /clone=RHEAE54 /clone_end=3 /gb=AA798726 /gi=2862681 /ug=Rn.19617 /len=503

Table 2.

AA7997 32	4463	No Rat Protein Found.	X95484	4464	Q14129	4465	91.03	ESTs, Moderately similar to DGC6 MOUSE DGC6 PROTEIN [M.musculus]		rc_AA799732 EST189229 Rattus norvegicus cDNA, 3' end /clone=RHEAE80 /clone_end=3 /gb=AA799732 /gi=2862687 /ug=Rn.22487 /len=579
AA7997 35	4466	AAH06 688	4467	4468	XP_001 403	4469	84.46	Mus musculus, HS1 binding protein	BC006688	rc_AA799735 EST189232 Rattus norvegicus cDNA, 3' end /clone=RHEAE83 /clone_end=3 /gb=AA799735 /gi=2862690 /ug=Rn.3544 /len=581
AA7997 35	4470	AAH06 688	4471	4472	XP_001 403	4473	94.46	Mus musculus, HS1 binding protein	BC006688	rc_AA799735 EST189232 Rattus norvegicus cDNA, 3' end /clone=RHEAE83 /clone_end=3 /gb=AA799735 /gi=2862690 /ug=Rn.3544 /len=581
AA7997 40	4474	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA799740 EST189237 Rattus norvegicus cDNA, 3' end /clone=RHEAE88 /clone_end=3 /gb=AA799740 /gi=2862695 /ug=Rn.3717 /len=658
AA7997 45	4475	AAF602 22	4476	XM_01704 2	XP_017 042		82	CDK5 activator- binding protein C53	AF177476	rc_AA799745 EST189242 Rattus norvegicus cDNA, 3' end /clone=RHEAE75 /clone_end=3 /gb=AA799745 /gi=2862700 /ug=Rn.3727 /len=568
AA7997 45	4477	AAF602 22	4478	XM_01704 2	XP_017 042		82	CDK5 activator- binding protein C53	AF177476	rc_AA799745 EST189242 Rattus norvegicus cDNA, 3' end /clone=RHEAE75 /clone_end=3 /gb=AA799745 /gi=2862700 /ug=Rn.3727 /len=568
AA7997 45	4479	AAF602 22	4480	XM_01704 2	XP_017 042		82	CDK5 activator- binding protein C53	AF177476	rc_AA799745 EST189242 Rattus norvegicus cDNA, 3' end /clone=RHEAE75 /clone_end=3 /gb=AA799745 /gi=2862700 /ug=Rn.3727 /len=568
AA7997 45	4481	AAF602 22	4482	XM_01704 2	XP_017 042		82	CDK5 activator- binding protein C53	AF177476	rc_AA799745 EST189242 Rattus norvegicus cDNA, 3' end /clone=RHEAE75 /clone_end=3 /gb=AA799745 /gi=2862700 /ug=Rn.3727 /len=568
AA7997 51	4483	No Rat Protein Found.	AV724415	4484	No (Human Protein Found.		85.58	EST(not recognised)		rc_AA799751 EST189248 Rattus norvegicus cDNA, 3' end /clone=RHEAE83 /clone_end=3 /gb=AA799751 /gi=2862706 /ug=Rn.3583 /len=671



Table 2.

AA7997 64	4485	No Rat Protein Found.	BC007880	4486	No Human Protein Found.	Q13155	4489	91.27	EST(not recognised)	91.27	rc_AA799764 EST189261 Rattus norvegicus cDNA, 3' end /clone=RHEAF08 /clone_end=3 /gb=AA799764 /gi=2862719 /ug=Rn.6231 /len=646
AA7997 66	4487	No Rat Protein Found.	NM_0063 03	4488	Q13155	4489	83.11	JTV1			rc_AA799766 EST189263 Rattus norvegicus cDNA, 3' end /clone=RHEAF10 /clone_end=3 /gb=AA799766 /gi=2862721 /ug=Rn.3333 /len=567
AA7997 71	4490	No Rat Protein Found.	BG778035	4491	No Human Protein Found.		87.38	EST(not recognised)			rc_AA799771 EST189268 Rattus norvegicus cDNA, 3' end /clone=RHEAF15 /clone_end=3 /gb=AA799771 /gi=2862726 /ug=Rn.3821 /len=631
AA7997 71	4492	No Rat Protein Found.	BG778035	4493	No Human Protein Found.		87.38	EST (not recognised)			rc_AA799771 EST189268 Rattus norvegicus cDNA, 3' end /clone=RHEAF15 /clone_end=3 /gb=AA799771 /gi=2862726 /ug=Rn.3821 /len=631
AA7997 73	4494	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			Mus musculus 18 days embryo cDNA, RIKEN			rc_AA799773 EST189270 Rattus norvegicus cDNA, 3' end /clone=RHEAF17 /clone_end=3 /gb=AA799773 /gi=2862728 /ug=Rn.22352 /len=615
AA7997 73	4495	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			Mus musculus 18 days embryo cDNA, RIKEN			rc_AA799773 EST189270 Rattus norvegicus cDNA, 3' end /clone=RHEAF17 /clone_end=3 /gb=AA799773 /gi=2862728 /ug=Rn.22352 /len=615
AA7997 78	4496	P19511	BI461802	4498	NP_001 879	4499	88.13	F-O-ATPase subunit b			rc_AA799778 EST189276 Rattus norvegicus cDNA, 3' end /clone=RHEAF23 /clone_end=3 /gb=AA799778 /gi=2862733 /ug=Rn.3589 /len=568
											Mitochondrial
											"ATP synthase B chain, mitochondrial precursor (EC 3.6.3.14)."

Table 2.

AA799779	4500	Q8ES7	4501	NM_0142	4502	O15228	4503	80	glyceronephosphate O-acyltransferase (Gnpat)	NM_010322	rc_AA799779 EST189276 Rattus norvegicus cDNA, 3' end /clone=RHEAF24 /clone_end=3 /gb=AA799779 /gi=2862734 /ug=Rn.1739 /len=679	PEROXISOMAL; EXCLUSIVE LOCALIZED TO THE LUMENAL SIDE OF THE PEROXISOMAL MEMBRANE	Dihydroxyacetone phosphate acyltransferase (EC 2.3.1.42) (DHAP-AT)(DAP-AT) (Glycerone-phosphate O-acyltransferase) (Acyl-CoA:dihydroxyacetonephosphate acyltransferase).
AA799779	4504	Q8ES7	4505	NM_0142	4506	O15228	4507	80	peroxisomal acyl-CoA:dihydroxyacetone phosphate acyltransferase	AF110769	rc_AA799779 EST189276 Rattus norvegicus cDNA, 3' end /clone=RHEAF24 /clone_end=3 /gb=AA799779 /gi=2862734 /ug=Rn.1739 /len=679	PEROXISOMAL; EXCLUSIVE LOCALIZED TO THE LUMENAL SIDE OF THE PEROXISOMAL MEMBRANE	Dihydroxyacetone phosphate acyltransferase (EC 2.3.1.42) (DHAP-AT)(DAP-AT) (Glycerone-phosphate O-acyltransferase) (Acyl-CoA:dihydroxyacetonephosphate acyltransferase).

Table 2.

AA799779	4508	Q8ES71	4509	NM_014236	4510	O15228	4511	80	glyceronephosphate O-acetyltransferase (Gnpat)	NM_010322	tc_AA799779 EST189276 Rattus norvegicus cDNA, 3' end /clone=RHEAF24 /clone_end=3 /gb=AA799779 /gi=2862734 /ug=Rn.1739 /len=679	PEROXISOMAL; EXCLUSIVE LOCALIZED TO THE LUMENAL SIDE OF THE PEROXISOMAL MEMBRANE	Dihydroxyacetone phosphate acyltransferase (EC 2.3.1.42) (DHAP-AT)(DAP-AT) (Glycerone-phosphate O-acetyltransferase) (Acyl-CoA: dihydroxyacetonephosphate acyltransferase).
AA799779	4512	Q8ES71	4513	NM_014236	4514	O15228	4515	80	peroxisomal acyl-CoA: dihydroxyacetone phosphate acyltransferase	AF110769	tc_AA799779 EST189276 Rattus norvegicus cDNA, 3' end /clone=RHEAF24 /clone_end=3 /gb=AA799779 /gi=2862734 /ug=Rn.1739 /len=679	PEROXISOMAL; EXCLUSIVE LOCALIZED TO THE LUMENAL SIDE OF THE PEROXISOMAL MEMBRANE	Dihydroxyacetone phosphate acyltransferase (EC 2.3.1.42) (DHAP-AT)(DAP-AT) (Glycerone-phosphate O-acetyltransferase) (Acyl-CoA: dihydroxyacetonephosphate acyltransferase).
AA799783	4516	No Rat Protein Found.		AI682207	4517	No Human Protein Found.		96.3	EST (not recognised)		tc_AA799783 EST189280 Rattus norvegicus cDNA, 3' end /clone=RHEAF28 /clone_end=3 /gb=AA799783 /gi=2862738 /ug=Rn.12965 /len=609		
AA799784	4518	AAD38018	4519	AL136727	4520	AAH03617	4521	91.94	RAB6, member RAS oncogene family	AF148210	tc_AA799784 EST189281 Rattus norvegicus cDNA, 3' end /clone=RHEAF28 /clone_end=3 /gb=AA799784 /gi=2862739 /ug=Rn.1695 /len=673		

Table 2.

AA7988 04	4522	No Rat Protein Found.	No human homolog found.	4524	No Human Protein Found.		EST (not recognized)		rc_AA798804 EST189301 Rattus norvegicus cDNA, 3' end /clone=RHEAF56 /clone_end=3 /gb=AA798804 /gi=2862759 /ug=Rn.25117 /len=582
AA7988 14	4523	No Rat Protein Found.			P49137	4525	93.72	EST(not recognised)	rc_AA798814 EST189311 Rattus norvegicus cDNA, 3' end /clone=RHEAF68 /clone_end=3 /gb=AA798814 /gi=2862769 /ug=Rn.8276 /len=475
AA7988 22	4526	AAH10 524	4527		No Human Protein Found.		EST (mouse hypothetical protein)		rc_AA798822 EST189319 Rattus norvegicus cDNA, 3' end /clone=RHEAF78 /clone_end=3 /gb=AA798822 /gi=2862777 /ug=Rn.6239 /len=810
AA7988 22	4528	AAH10 524	4528		No Human Protein Found.		EST (mouse hypothetical protein)		rc_AA798822 EST189319 Rattus norvegicus cDNA, 3' end /clone=RHEAF78 /clone_end=3 /gb=AA798822 /gi=2862777 /ug=Rn.6239 /len=610
AA7988 24	4530	AAC83 084	4531	4532	P21283	4533	88.01	vacuolar adenosine triphosphatase subunit C	rc_AA798824 EST189321 Rattus norvegicus cDNA, 3' end /clone=RHEAF80 /clone_end=3 /gb=AA798824 /gi=2862779 /ug=Rn.6240 /len=630
AA7988 54	4534	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		EST (not recognized)		rc_AA798854 EST189351 Rattus norvegicus cDNA, 3' end /clone=RHEAG17 /clone_end=3 /gb=AA798854 /gi=2862809 /ug=Rn.6244 /len=427
AA7988 58	4535	P49432	4536		BC0004 39	4537		Pyruvate dehydrogenas e (lipoamide) beta	rc_AA798858 EST189355 Rattus norvegicus cDNA, 3' end /clone=RHEAG21 /clone_end=3 /gb=AA798858 /gi=2862813 /ug=Rn.6245 /len=207
AA7988 61	4538	NP_058 546	4539	4540	Q92985	4541	82.9	Interferon regulatory factor 7 (lr7),	rc_AA798861 EST189358 Rattus norvegicus cDNA, 3' end /clone=RHEAG24 /clone_end=3 /gb=AA798861 /gi=2862816 /ug=Rn.6246 /len=499
AA7988 61	4542	NP_058 546	4543	4544	Q92985	4545	82.9	Interferon regulatory factor 7 (lr7),	rc_AA798861 EST189358 Rattus norvegicus cDNA, 3' end /clone=RHEAG24 /clone_end=3 /gb=AA798861 /gi=2862816 /ug=Rn.6246 /len=499

Table 2.

AA7988 89	4546	NP_035 048	4547	A1628792	4548	A47328	4549	88.89	Natural killer tumor recognition protein (cyclophilin- related)	rc_AA798889 EST189386 Rattus norvegicus cDNA, 3' end /clone=RHEAG57 /clone_end=3 /gb=AA798889 /gi=2862844 /ug=Rn.3832 /len=510
AA7988 89	4550	NP_035 048	4551	A1628792	4552	A47328	4553	88.89	Natural killer tumor recognition protein (cyclophilin- related)	rc_AA798889 EST189386 Rattus norvegicus cDNA, 3' end /clone=RHEAG57 /clone_end=3 /gb=AA798889 /gi=2862844 /ug=Rn.3832 /len=510
AA7988 93	4554	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			Mus musculus 10 day old male pancreas cDNA, RIKEN	rc_AA798893 EST189390 Rattus norvegicus cDNA, 3' end /clone=RHEAG61 /clone_end=3 /gb=AA798893 /gi=2862848 /ug=Rn.1919 /len=523
AA7988 93	4555	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			Mus musculus 10 day old male pancreas cDNA, RIKEN	rc_AA798893 EST189390 Rattus norvegicus cDNA, 3' end /clone=RHEAG81 /clone_end=3 /gb=AA798893 /gi=2862848 /ug=Rn.1919 /len=523
AA7989 64	4556	No Rat Protein Found.		AK024270	4557	No Human Protein Found.		84.55	Mus musculus 18 days embryo cDNA, RIKEN full- length enriched library, clone:1110046 J11	rc_AA798964 EST189461 Rattus norvegicus cDNA, 3' end /clone=RHEAH65 /clone_end=3 /gb=AA798964 /gi=2862919 /ug=Rn.6261 /len=452
AA7989 80	4558	S20392	4559	AW66593 6	4560	O75688	4561	92.5	Protein phosphatase type 1B (formerly 2C), Mg- dependent, beta isoform	rc_AA798980 EST189477 Rattus norvegicus cDNA, 3' end /clone=RHEAH85 /clone_end=3 /gb=AA798980 /gi=2862835 /ug=Rn.4143 /len=551

Table 2.

AA7899 91	4562	No Rat Protein Found.	AF288393	4563	Q8BZQ6	4564	93.68	EST (not recognized)	AB027143	rc_AA789991 EST189488 Rattus norvegicus cDNA, 3' end /clone=RHEA101 /clone_end=3 /gb=AA789991 /gi=2862946 /ug=Rn.3844 /len=712
AA8000 04	4565	BAA980 51	AF035811	4567	O43236	4568	94.25	CDCrel-1A		rc_AA800004 EST189501 Rattus norvegicus cDNA, 3' end /clone=RHEA119 /clone_end=3 /gb=AA800004 /gi=2862959 /ug=Rn.5269 /len=649
AA8000 24	4569	NP_033 860	AK021433	4571	NP_036 202	4572	92.76	Attractin	NM_009730	rc_AA800024 EST189521 Rattus norvegicus cDNA, 3' end /clone=RHEA150 /clone_end=3 /gb=AA800024 /gi=2862978 /ug=Rn.22339 /len=579
AA8000 34	4573	No Rat Protein Found.	No human homolog found.	No	No Human Protein Found.			EST (not recognized)		rc_AA800034 EST189531 Rattus norvegicus cDNA, 3' end /clone=RHEA163 /clone_end=3 /gb=AA800034 /gi=2862989 /ug=Rn.8569 /len=613
AA8000 34	4574	No Rat Protein Found.	No human homolog found.	No	No Human Protein Found.			EST (not recognized)		rc_AA800034 EST189531 Rattus norvegicus cDNA, 3' end /clone=RHEA163 /clone_end=3 /gb=AA800034 /gi=2862989 /ug=Rn.8569 /len=613
AA8000 38	4575	No Rat Protein Found.	NM_0145 75	4576	NP_055 390	4577	91.37	schwannomlin- interacting protein 1 (SHIP1)		rc_AA800036 EST189533 Rattus norvegicus cDNA, 3' end /clone=RHEA185 /clone_end=3 /gb=AA800036 /gi=2862991 /ug=Rn.22212 /len=514
AA8000 54	4578	P14118	NM_0009 81	4580	P14118	4581	72	ribosomal protein L19	NM_031103	rc_AA800054 EST189551 Rattus norvegicus cDNA, 3' end /clone=RHEA186 /clone_end=3 /gb=AA800054 /gi=2863009 /ug=Rn.3384 /len=602
AA8000 62	4582	NP_062 708	NM_0043 15	4584	Q13510	4585	79	N- acylsphingosin e amidohydrolas e 1 (Asah1)	NM_019734	rc_AA800062 EST189559 Rattus norvegicus cDNA, 3' end /clone=RHEA195 /clone_end=3 /gb=AA800062 /gi=2863017 /ug=Rn.4158 /len=648

60S ribosomal  
protein L19.

Table 2.

AA8001 26	4586	No Rat Protein Found.	L10910	4587	CAC111 16	4588	97.25	Human DNA sequence from clone RP11-353C18 on chromosome 20	rc_AA800126 EST189623 Rattus norvegicus cDNA, 3' end /clone=RHEAL05 /clone_end=3 /gb=AA800126 /gl=2863081 /ug=Rn.8555 /len=378
AA8001 68	4589	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST (not recognized)	rc_AA800168 EST189665 Rattus norvegicus cDNA, 3' end /clone=RHEAL95 /clone_end=3 /gb=AA800168 /gl=2863123 /ug=Rn.22112 /len=343
AA8001 77	4590	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST (not recognized)	rc_AA800177 EST189674 Rattus norvegicus cDNA, 3' end /clone=RHEAM10 /clone_end=3 /gb=AA800177 /gl=2863132 /ug=Rn.3864 /len=576
AA8001 77	4591	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST (not recognized)	rc_AA800177 EST189674 Rattus norvegicus cDNA, 3' end /clone=RHEAM10 /clone_end=3 /gb=AA800177 /gl=2863132 /ug=Rn.3864 /len=576
AA8001 84	4592	No Rat Protein Found.	AB011101	4593	Q8Y4E8	4594	95.31	Homo sapiens ubiquitin specific protease 15	rc_AA800184 EST189681 Rattus norvegicus cDNA, 3' end /clone=RHEAM20 /clone_end=3 /gb=AA800184 /gl=2863139 /ug=Rn.6294 /len=514
AA8001 90	4595	AAA412 52	4596	4597	P35749	4598	92.47	Rat glycogen phosphorylase brain isozyme mRNA, 5'	rc_AA800190 EST189687 Rattus norvegicus cDNA, 3' end /clone=RHEAM27 /clone_end=3 /gb=AA800190 /gl=2863145 /ug=Rn.1518 /len=645
AA8001 90	4599	AAA412 52	4600	4601	P35749	4602	92.47	Rat glycogen phosphorylase brain isozyme mRNA, 5'	rc_AA800190 EST189687 Rattus norvegicus cDNA, 3' end /clone=RHEAM27 /clone_end=3 /gb=AA800190 /gl=2863145 /ug=Rn.1518 /len=645
AA8001 98	4603	No Rat Protein Found.	BF904759	4604	No Human Protein Found.		93.57	Mus musculus adult male tongue cDNA, RIKEN	rc_AA800198 EST189695 Rattus norvegicus cDNA, 3' end /clone=RHEAM35 /clone_end=3 /gb=AA800198 /gl=2863153 /ug=Rn.3405 /len=556

Table 2.

AA8001 98	4605	No Rat Protein Found.	BE396293	4606	No Human Protein Found.	85.19	Mus musculus 18 days embryo cDNA, RIKEN	rc_AA800199 EST189696 Rattus norvegicus cDNA, 3 end /clone=RHEAM36 /clone_end=3 /gb=AA800199 /gi=2863154 /ug=Rn.2980 /len=631	INTEGRAL MEMBRANE PROTEIN. SARCOPLA SMIC AND ENDOPLAS MIC RETICULUM	"Sarcoplasmic/e ndoplasmic reticulum calcium ATPase 2 (EC 3.6.3.8)(Calcium pump 2) (SERCA2) (SR Ca(2+)-ATPase 2) (Calcium- transportingATP ase sarcoplasmic reticulum type, slow twitch skeletal muscleisofo"
AA8002 12	4607	P11507	4608	4609	P16615	91.03	ATPase, Ca++ transporting, cardiac muscle, slow twitch 2	rc_AA800212 EST189709 Rattus norvegicus cDNA, 3 end /clone=RHEAM51 /clone_end=3 /gb=AA800212 /gi=2863167 /ug=Rn.2305 /len=727		
AA8002 20	4611	NP_037 138	4612	4613	NP_006 321	92.42	Lysophospholipase	rc_AA800220 EST189717 Rattus norvegicus cDNA, 3 end /clone=RHEAM59 /clone_end=3 /gb=AA800220 /gi=2863175 /ug=Rn.3594 /len=720		
AA8002 21	4615	AAK503 98	4616	4617	Q8UHP9	85.65	SMPX protein	rc_AA800221 EST189718 Rattus norvegicus cDNA, 3 end /clone=RHEAM60 /clone_end=3 /gb=AA800221 /gi=2863176 /ug=Rn.4123 /len=459		
AA8002 24	4619	No Rat Protein Found.	AK001441	4620	No Human Protein Found.	87.13	EST (not recognized)	rc_AA800224 EST189721 Rattus norvegicus cDNA, 3 end /clone=RHEAM64 /clone_end=3 /gb=AA800224 /gi=2863179 /ug=Rn.18772 /len=583		



Table 2.

AA8002 28	4822	CAA62 001	4623	AB027011	4624	CAB460 24	4625	87.86	R.norvegicus mRNA for unknown protein (PIPPin)			rc_AA800228 EST189725 Rattus norvegicus cDNA, 3 end /clone=RHEAM68 /clone_end=3 /gb=AA800228 /gi=2863183 /ug=Rn.1171 /len=669
AA8002 43	4626	NP_031 728	4627	AF041378	4628	O60543	4629	85.45	cell death- inducing DNA fragmentation factor, alpha subunit-like effector A	NM_00770 2		rc_AA800243 EST189740 Rattus norvegicus cDNA, 3 end /clone=RHEAM86 /clone_end=3 /gb=AA800243 /gi=2863198 /ug=Rn.8171 /len=613
AA8002 60	4630	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)			rc_AA800260 EST189757 Rattus norvegicus cDNA, 3 end /clone=RHEAN12 /clone_end=3 /gb=AA800260 /gi=2863215 /ug=Rn.3448 /len=623
AA8002 68	4631	AAH02 146	4632	XM_00873 6		XP_006 736			similar to HSPC160 protein (EST)	BC002148		rc_AA800268 EST189765 Rattus norvegicus cDNA, 3 end /clone=RHEAN22 /clone_end=3 /gb=AA800268 /gi=2863223 /ug=Rn.3875 /len=569
AA8002 72	4633	No Rat Protein Found.		X06323	4634	P09001	4635	91.16	Mus musculus adult male kidney cDNA, RIKEN			rc_AA800272 EST189769 Rattus norvegicus cDNA, 3 end /clone=RHEAN26 /clone_end=3 /gb=AA800272 /gi=2863227 /ug=Rn.6950 /len=625
AA8002 90	4636	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)			rc_AA800280 EST189787 Rattus norvegicus cDNA, 3 end /clone=RHEAN45 /clone_end=3 /gb=AA800280 /gi=2863245 /ug=Rn.6309 /len=420
AA8002 90	4637	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)			rc_AA800290 EST189787 Rattus norvegicus cDNA, 3 end /clone=RHEAN45 /clone_end=3 /gb=AA800290 /gi=2863245 /ug=Rn.6309 /len=420

Table 2.

AA8002 90	4638	No Rat Protein Found.	4643	No human homolog found.	4644	Q8NRY6	4645	90	phospholipid scramblase 3 (Piscr3)	NM_02356 4	rc_AA800290 EST189787 Rattus norvegicus cDNA, 3' end /clone=RHEAN45 /clone_end=3 /gb=AA800290 /gi=2863245 /ug=Rn.6309 /len=420
AA8002 90	4639	No Rat Protein Found.		No human homolog found.					EST (not recognized)		rc_AA800290 EST189787 Rattus norvegicus cDNA, 3' end /clone=RHEAN45 /clone_end=3 /gb=AA800290 /gi=2863245 /ug=Rn.6309 /len=420
AA8002 90	4640	No Rat Protein Found.		No human homolog found.					EST (not recognized)		rc_AA800290 EST189787 Rattus norvegicus cDNA, 3' end /clone=RHEAN45 /clone_end=3 /gb=AA800290 /gi=2863245 /ug=Rn.6309 /len=420
AA8002 90	4641	No Rat Protein Found.		No human homolog found.					EST (not recognized)		rc_AA800290 EST189787 Rattus norvegicus cDNA, 3' end /clone=RHEAN45 /clone_end=3 /gb=AA800290 /gi=2863245 /ug=Rn.6309 /len=420
AA8003 03	4642	NP_076 053	4643	NM_0203 60	4644		4645	90			rc_AA800303 EST189800 Rattus norvegicus cDNA, 3' end /clone=RHEAN65 /clone_end=3 /gb=AA800303 /gi=2863258 /ug=Rn.22784 /len=568
AA8003 05	4646	NM_02 2692		XM_05348 1		XP_053 461			RAB5A, member RAS oncogene family (RAB5A), ESTs, Weakly similar to B26423 serine protease inhibitor 2.2 - rat [R.norvegicus]	NP_07318 3	rc_AA800305 EST189802 Rattus norvegicus cDNA, 3' end /clone=RHEAN68 /clone_end=3 /gb=AA800305 /gi=2863260 /ug=Rn.6311 /len=558
AA8003 18	4647	B26423	4648	M13203	4649	ITHUC1	4650	81			rc_AA800318 EST189815 Rattus norvegicus cDNA, 3' end /clone=RHEAN84 /clone_end=3 /gb=AA800318 /gi=2863273 /ug=Rn.947 /len=560

Table 2.

AA8005 35	4651	No Rat Protein Found.	AF247703	4652	T47144	4653	96.79	ESTs, Weakly similar to T47144 hypothetical protein DKFZp761E1 347.1 [H.sapiens]	rc_AA800535 EST190032 Rattus norvegicus cDNA, 3' end /clone=RLUAB20 /clone_end=3 /gb=AA800535 /gi=2863490 /ug=Rn.8573 /len=476
AA8005 70	4654	No Rat Protein Found.	R49498	4655	No Human Protein Found.	4658	95.61	Homo sapiens chromosome 15 clone RP11 64K12	rc_AA800570 EST190067 Rattus norvegicus cDNA, 3' end /clone=RLUAB41 /clone_end=3 /gb=AA800570 /gi=2863525 /ug=Rn.3346 /len=496
AA8005 72	4656	No Rat Protein Found.	AF041037	4657	O43609	4658	93.99	Homo sapiens novel antagonist of FGF signaling (sprouty-1)	rc_AA800572 EST190069 Rattus norvegicus cDNA, 3' end /clone=RLUAB42 /clone_end=3 /gb=AA800572 /gi=2863527 /ug=Rn.22787 /len=473
AA8005 97	4659	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST (not recognized)	rc_AA800597 EST190094 Rattus norvegicus cDNA, 3' end /clone=RLUAB60 /clone_end=3 /gb=AA800597 /gi=2863552 /ug=Rn.1149 /len=596
AA8005 97	4660	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST (not recognized)	rc_AA800597 EST190094 Rattus norvegicus cDNA, 3' end /clone=RLUAB60 /clone_end=3 /gb=AA800597 /gi=2863552 /ug=Rn.1149 /len=596
AA8008 22	4661	No Rat Protein Found.	AK056890	4662	No Human Protein Found.		93.8	EST (not recognized)	rc_AA800622 EST190119 Rattus norvegicus cDNA, 3' end /clone=RLUAB76 /clone_end=3 /gb=AA800622 /gi=2863577 /ug=Rn.22788 /len=652
AA8008 37	4663	BAB274 81	4664	4665	No Human Protein Found.			Homo sapiens full length insert cDNA clone	rc_AA800637 EST190134 Rattus norvegicus cDNA, 3' end /clone=RLUAB84 /clone_end=3 /gb=AA800637 /gi=2863592 /ug=Rn.2033 /len=639

Table 2.

AA8006 39	4666	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		EST(not recognised)		rc_AA800639 EST190136 Rattus norvegicus cDNA, 3' end /clone=RLUAB85 /clone_end=3 /gb=AA800639 /gi=2863594 /ug=Rn.6615 /len=583
AA8006 51	4667	No Rat Protein Found.		NM_0062 43	4668	Q15172	4669	89	protein phosphatase 2, regulatory subunit B (B56)	rc_AA800651 EST190148 Rattus norvegicus cDNA, 3' end /clone=RLUAB91 /clone_end=3 /gb=AA800651 /gi=2863606 /ug=Rn.1519 /len=539
AA8006 63	4670	NP_075 532	4671	AB018288	4672	Q9UIA9	4673	95.48	Mus musculus RAN binding protein 16	rc_AA800663 EST190160 Rattus norvegicus cDNA, 3' end /clone=RLUAK04 /clone_end=3 /gb=AA800663 /gi=2863618 /ug=Rn.7664 /len=362
AA8006 71	4674	NP_006 624	4675	U51903	4676	Q13576	4677	96.75	IQ motif containing GTPase activating protein 2	rc_AA800671 EST190168 Rattus norvegicus cDNA, 3' end /clone=RLUAK13 /clone_end=3 /gb=AA800671 /gi=2863626 /ug=Rn.3743 /len=590
AA8006 73	4678	No Rat Protein Found.		D79986	4679	No Human Protein Found.	4680	96.84	Mus musculus 10, 11 days embryo cDNA, RIKEN	rc_AA800673 EST190170 Rattus norvegicus cDNA, 3' end /clone=RLUAK15 /clone_end=3 /gb=AA800673 /gi=2863628 /ug=Rn.22282 /len=698
AA8006 78	4681	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)	rc_AA800678 EST190175 Rattus norvegicus cDNA, 3' end /clone=RLUAK20 /clone_end=3 /gb=AA800678 /gi=2863633 /ug=Rn.8592 /len=452
AA8006 80	4682	BAB282 31	4683	No human homolog found.		No Human Protein Found.			EST (mouse hypothetical protein)	rc_AA800680 EST190177 Rattus norvegicus cDNA, 3' end /clone=RLUAK23 /clone_end=3 /gb=AA800680 /gi=2863635 /ug=Rn.22780 /len=626

Table 2.

AA8006 84	4684	PT0188	M36881	4685	P06239	4686	91.54	ESTs, Moderately similar to TYROSINE- PROTEIN KINASE LYN [R.norvegicus]	rc_AA800684 EST190181 Rattus norvegicus cDNA, 3' end /clone=RLUAK27 /clone_end=3 /gb=AA800684 /gi=2863639 /ug=Rn.22791 /len=501
AA8006 84	4687	PT0188	M36881	4688	P06239	4689	91.54	ESTs, Moderately similar to TYROSINE- PROTEIN KINASE LYN [R.norvegicus]	rc_AA800684 EST190181 Rattus norvegicus cDNA, 3' end /clone=RLUAK27 /clone_end=3 /gb=AA800684 /gi=2863639 /ug=Rn.22791 /len=501
AA8006 86	4690	No Rat Protein Found.	D86962	4691	Q13322	4692	93.94	Similar to growth factor receptor- binding protein Grb10	rc_AA800686 EST190183 Rattus norvegicus cDNA, 3' end /clone=RLUAK29 /clone_end=3 /gb=AA800686 /gi=2863641 /ug=Rn.3751 /len=632
AA8006 86	4693	No Rat Protein Found.	D86962	4694	Q13322	4695	93.94	Similar to growth factor receptor- binding protein Grb10	rc_AA800686 EST190183 Rattus norvegicus cDNA, 3' end /clone=RLUAK29 /clone_end=3 /gb=AA800686 /gi=2863641 /ug=Rn.3751 /len=632
AA8006 93	4696	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	No			Mus musculus adult male tongue cDNA, RIKEN	rc_AA800693 EST190190 Rattus norvegicus cDNA, 3' end /clone=RLUAK36 /clone_end=3 /gb=AA800693 /gi=2863648 /ug=Rn.6620 /len=533
AA8006 93	4697	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	No			EST (not recognized)	rc_AA800693 EST190190 Rattus norvegicus cDNA, 3' end /clone=RLUAK36 /clone_end=3 /gb=AA800693 /gi=2863648 /ug=Rn.6620 /len=533

Table 2.

AA8006 93	4688	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	rc_AA800693 EST190190 Rattus norvegicus cDNA, 3' end /clone=RLUAK36 /clone_end=3 /gb=AA800693 /gi=2863648 /ug=Rn.6620 /len=633
AA8006 93	4689	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		Mus musculus adult male tongue cDNA, RIKEN	rc_AA800693 EST190190 Rattus norvegicus cDNA, 3' end /clone=RLUAK36 /clone_end=3 /gb=AA800693 /gi=2863648 /ug=Rn.6620 /len=633
AA8006 99	4700	No Rat Protein Found.	AK027812	4701	4702	88.44	rc_AA800699 EST190196 Rattus norvegicus cDNA, 3' end /clone=RLUAK42 /clone_end=3 /gb=AA800699 /gi=2863654 /ug=Rn.6621 /len=634
AA8006 99	4703	No Rat Protein Found.	AK027812	4704	4705	88.44	rc_AA800699 EST190196 Rattus norvegicus cDNA, 3' end /clone=RLUAK42 /clone_end=3 /gb=AA800699 /gi=2863654 /ug=Rn.6621 /len=634
AA8007 01	4706	No Rat Protein Found.	BF109813	4707	4708	96.15	rc_AA800701 EST190198 Rattus norvegicus cDNA, 3' end /clone=RLUAK44 /clone_end=3 /gb=AA800701 /gi=2863656 /ug=Rn.8286 /len=585

Table 2.

AA800708	4709	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)	rc_AA800708 EST190205 Rattus norvegicus cDNA, 3' end /clone=RLUAK52 /clone_end=3 /gb=AA800708 /gi=2863663 /ug=Rn.3886 /len=841
AA800719	4710	No Rat Protein Found.	AL133060	4711 XP_043341	83.12 KIAA1181 protein	rc_AA800719 EST190216 Rattus norvegicus cDNA, 3' end /clone=RLUAK63 /clone_end=3 /gb=AA800719 /gi=2863674 /ug=Rn.6624 /len=663
AA800719	4712	No Rat Protein Found.	AL133060	4713 XP_043341	83.12 KIAA1181 protein	rc_AA800719 EST190216 Rattus norvegicus cDNA, 3' end /clone=RLUAK63 /clone_end=3 /gb=AA800719 /gi=2863674 /ug=Rn.6624 /len=663
AA800735	4714	No Rat Protein Found.	AF051850	4715 No Human Protein Found.	92.92 Mus musculus, Similar to supervillin, clone IMAGE:35895 33	rc_AA800735 EST190232 Rattus norvegicus cDNA, 3' end /clone=RLUAK81 /clone_end=3 /gb=AA800735 /gi=2863690 /ug=Rn.6627 /len=552
AA800735	4717	No Rat Protein Found.	AF051850	4718 No Human Protein Found.	92.92 Mus musculus, Similar to supervillin, clone IMAGE:35895 33	rc_AA800735 EST190232 Rattus norvegicus cDNA, 3' end /clone=RLUAK81 /clone_end=3 /gb=AA800735 /gi=2863690 /ug=Rn.6627 /len=552
AA800749	4720	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognised)	rc_AA800749 EST190246 Rattus norvegicus cDNA, 3' end /clone=RLUAL02 /clone_end=3 /gb=AA800749 /gi=2863704 /ug=Rn.1897 /len=637
AA800753	4721	CAC17143	4722 AK027892	4723 CAC17609	93.28 RnBP7/importin 7 [Mus musculus]	rc_AA800753 EST190250 Rattus norvegicus cDNA, 3' end /clone=RLUAL06 /clone_end=3 /gb=AA800753 /gi=2863708 /ug=Rn.17156 /len=475
AA800753	4725	CAC17143	4726 AK027892	4727 CAC17609	93.28 RnBP7/importin 7 [Mus musculus]	rc_AA800753 EST190250 Rattus norvegicus cDNA, 3' end /clone=RLUAL06 /clone_end=3 /gb=AA800753 /gi=2863708 /ug=Rn.17156 /len=475

Table 2.

AA8007 68	4729	No Rat Protein Found.	AW57310 2	4730	No Human Protein Found.	95.98	EST(not recognised)	XM_01033 7	rc_AA800768 EST190265 Rattus norvegicus cDNA, 3' end /clone=RLUAL23 /clone_end=3 /gb=AA800768 /gi=2863723 /ug=Rn.4116 /len=651
AA8007 72	4731	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		EST(not recognised)		rc_AA800772 EST190269 Rattus norvegicus cDNA, 3' end /clone=RLUAL27 /clone_end=3 /gb=AA800772 /gi=2863727 /ug=Rn.6639 /len=600
AA8007 82	4732	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		EST (not recognised)		rc_AA800782 EST190279 Rattus norvegicus cDNA, 3' end /clone=RLUAL38 /clone_end=3 /gb=AA800782 /gi=2863737 /ug=Rn.3621 /len=554
AA8007 87	4733	XP_010 337	NIM_0139 95	4734	P13473	4735	lysosomal- associated membrane protein 2 (LAMP2)		rc_AA800787 EST190284 Rattus norvegicus cDNA, 3' end /clone=RLUAL44 /clone_end=3 /gb=AA800787 /gi=2863742 /ug=Rn.4117 /len=520
AA8007 94	4736	No Rat Protein Found.	U18543	4737	Q13049	4738	Mus musculus 10 day old male pancreas cDNA, RIKEN		rc_AA800794 EST190291 Rattus norvegicus cDNA, 3' end /clone=RLUAL53 /clone_end=3 /gb=AA800794 /gi=2863749 /ug=Rn.4118 /len=644
AA8008 03	4739	No Rat Protein Found.	AK026608	4740	No Human Protein Found.	4741	EST (not recognised)		rc_AA800803 EST190300 Rattus norvegicus cDNA, 3' end /clone=RLUAL62 /clone_end=3 /gb=AA800803 /gi=2863758 /ug=Rn.2245 /len=534
AA8008 03	4742	No Rat Protein Found.	AK026608	4743	No Human Protein Found.	4744	EST (not recognised)		rc_AA800803 EST190300 Rattus norvegicus cDNA, 3' end /clone=RLUAL62 /clone_end=3 /gb=AA800803 /gi=2863758 /ug=Rn.2245 /len=534
AA8008 14	4745	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		EST (not recognised)		rc_AA800814 EST190311 Rattus norvegicus cDNA, 3' end /clone=RLUAL75 /clone_end=3 /gb=AA800814 /gi=2863768 /ug=Rn.19955 /len=470
AA8008 50	4746	No Rat Protein Found.	L13689	4747	P35226	4748	murine leukemia viral (bml-1) oncogene homolog (BML1),		rc_AA800850 EST190347 Rattus norvegicus cDNA, 3' end /clone=RLUAM24 /clone_end=3 /gb=AA800850 /gi=2863805 /ug=Rn.17998 /len=470



Table 2.

AA8008 82	4749	No Rat Protein Found.	AA708838	4750	No Human Protein Found.	96.88	Mus musculus 11 days embryo head cDNA, RIKEN	NM_01160 2	rc_AA800882 EST190379 Rattus norvegicus cDNA, 3' end /clone=RLUAM60 /clone_end=3 /gb=AA800882 /gi=2863837 /ug=Rn.24136 /len=379	
AA8009 08	4751	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)	93.36	growth factor receptor bound protein 2 (Grb2),	NM_00816 3	rc_AA800908 EST190405 Rattus norvegicus cDNA, 3' end /clone=RLUAM90 /clone_end=3 /gb=AA800908 /gi=2863863 /ug=Rn.6663 /len=297	Growth factor receptor-bound protein 2 (GRB2) adapter protein(SH2/SH 3 adapter GRB2) (ASH protein).
AA8009 28	4752	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognised)	4756	Talin		rc_AA800928 EST190425 Rattus norvegicus cDNA, 3' end /clone=RLUAN23 /clone_end=3 /gb=AA800928 /gi=2863883 /ug=Rn.23969 /len=460	
AA8009 62	4753	NP_035 732	4754	4755	Q9Y490	80			rc_AA800962 EST190459 Rattus norvegicus cDNA, 3' end /clone=RLUAN59 /clone_end=3 /gb=AA800962 /gi=2863917 /ug=Rn.8674 /len=495	
AA8011 30	4757	P28354	4758	4759	P29354	4760			rc_AA801130 EST190627 Rattus norvegicus cDNA, 3' end /clone=ROVAA74 /clone_end=3 /gb=AA801130 /gi=2864085 /ug=Rn.3360 /len=613	

Table 2.

AA8178 43	4761	P22569	4762	XM_04919 4	XP_049 194		nuclear transcription factor Y, beta (NFYB),	NIM_03155 3	rc_AA817843 UI-R-AO-ae-f-09-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-AO-ae-f- 09-Q-UI /clone_end=3 /gb=AA817843 /gi=2887723 /ug=Rn.1131 /len=618	CCAAT-binding transcription factor subunit A (CBF-A) (NF-Y protein chain B) (NF-YB) (CAAT- box DNA binding protein subunit B).
AA8178 54	4763	P13635	4764	M13699	P00450	4766	GPI-anchored ceruloplasmin	AF202115	rc_AA817854 UI-R-AO-ae-g-10-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- AO-ae-g-10-Q-UI /clone_end=3 /gb=AA817854 /gi=2846779 /ug=Rn.8598 /len=438	Ceruloplasmin precursor (EC 1.16.3.1) (Ferroxidase).
AA8179 97	4767	P38663	4768	AA380579	P38663	4770	ribosomal protein L24	X78443	rc_AA817997 UI-R-AO-ah-b-07-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- AO-ah-b-07-Q-UI /clone_end=3 /gb=AA817997 /gi=2887877 /ug=Rn.1214 /len=564	60S ribosomal protein L24 (L30).
AA8179 97	4771	P38663	4772	AA380579	P38663	4774	ribosomal protein L24	X78443	rc_AA817997 UI-R-AO-ah-b-07-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- AO-ah-b-07-Q-UI /clone_end=3 /gb=AA817997 /gi=2887877 /ug=Rn.1214 /len=564	60S ribosomal protein L24 (L30).
AA8180 25	4775	P27274	4776	AF052941	NP_000 602	4778	CD59 antigen	NIM_01282 5	rc_AA818025 UI-R-AO-ah-a-06-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-AO-ah-a- 06-Q-UI /clone_end=3 /gb=AA818025 /gi=2887805 /ug=Rn.1231 /len=487	CD59 glycoprotein precursor (Membrane attack complex inhibitor factor) (MACIF) (MAC- inhibitory protein) (MAC- IP) (Protectin).

Table 2.

AA818025	4779	P27274	4780	AF052941	4781	NP_000602	4782	92.06	CD59 antigen	NM_012925	rc_AA818025 UI-R-AO-al-a-08-Q-UJ.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-AO-al-a-08-Q-UJ /clone_end=3 /gb=AA818025 /gi=2887905 /ug=Rn.1231 /len=487	Attached to the membrane by a GPI-anchor.	CD59 glycoprotein precursor (Membrane attack complex inhibition factor) (MACIP) (MAC-inhibitory protein) (MAC-IP) (Protectin).
AA818152	4783	P10111	4784	AA071425	4785	P05092	4786	95.02	Cyclophilin	rc_AA818152 UI-R-AO-am-b-09-Q-UJ.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-AO-am-b-09-Q-UJ /clone_end=3 /gb=AA818152 /gi=2888032 /ug=Rn.16465 /len=117	Cytoplasmic.	Peptidyl-prolyl cleavage-trans isomerase A (EC 5.2.1.8) (PPIase) (Rotamase) (Cyclophilin A) (Cyclosporin A-binding protein) (P31).	
AA818593	4787	NP_071983	4788	D29641	4789	P42285	4790	91.88	Phosphatidate phosphohydrolase type 2	NM_022538 rc_AA818593 UI-R-AO-bc-g-01-Q-UJ.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-AO-bc-g-01-Q-UJ /clone_end=3 /gb=AA818593 /gi=2889332 /ug=Rn.1944 /len=475			
AA818593	4791	NP_071983	4792	D29641	4793	P42285	4794	91.88	Phosphatidate phosphohydrolase type 2	NM_022538 rc_AA818593 UI-R-AO-bc-g-01-Q-UJ.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-AO-bc-g-01-Q-UJ /clone_end=3 /gb=AA818593 /gi=2889332 /ug=Rn.1944 /len=475			

Table 2.

AA8186 77	4785	P16884	4796	BC014185	4797	XP_037 942	4798	89.73	Rat heavy neurofilament subunit (NF-H) mRNA, 3' end	M21564	rc_AA818677 UI-R-AO-az-a-04-O-UI.s1 norvegicus cDNA, 3 end /clone=UI-R- AO-az-a-04-O-UI /clone_end=3 /gb=AA818677 /gi=2888283 /ug=Rn.1429 /len=801	Neurofilament triplet H protein (200 kDa neurofilament protein)(Neurofil- ament heavy polypeptide) (NF-H) (Fragment).
AA8187 26	4789	No Rat Protein Found.		U37221	4800	NP_055 152	4801	88.62	Homo sapiens peptidylprolyl isomerase (cyclophilin)- like 2		rc_AA818726 UI-R-AO-ay-f-04-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-AO-ay-f- 04-O-UI /clone_end=3 /gb=AA818726 /gi=2888312 /ug=Rn.22468 /len=464	
AA8188 43	4802	NP_063 972	4803	XM_03157 0		XP_031 570		99	postsynaptic protein CRIPT	NIM_01990 7	rc_AA818843 UI-R-AO-ar-g-04-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-AO-ar-g- 04-O-UI /clone_end=3 /gb=AA818843 /gi=2888429 /ug=Rn.12384 /len=452	
AA8188 58	4804	P10111	4805	AA071425	4806	P05092	4807	95.02	Peptidylprolyl isomerase A (cyclophilin A)	NIM_01710 1	rc_AA818858 UI-R-AO-ar-h-08-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-AO-ar-h- 08-O-UI /clone_end=3 /gb=AA818858 /gi=2888444 /ug=Rn.1463 /len=611	Peptidyl-prolyl cis-trans isomerase A (EC 5.2.1.8) (PPIase) (Rotamase)(Cyc- lophilin A) (Cyclosporin A- binding protein) (P31).

Table 2.

AA8193 38	4808	Q07984	4809	Z69043	4810	P51571	4811	87.92	Signal sequence receptor, delta	rc_AA819338 UI-R-A0-bc-o-12-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- A0-bc-o-12-O-UI /clone_end=3 /gb=AA819338 /gi=2889427 /ug=Rn.1999 /len=544	Type I membrane protein. Endoplasmic reticulum.	"Translocon- associated protein, delta subunit precursor (TRAP- delta)(Signal sequence receptor delta subunit) (SSR- delta)."
AA8193 38	4812	Q07984	4813	Z69043	4814	P51571	4815	87.92	Signal sequence receptor, delta	rc_AA819338 UI-R-A0-bc-o-12-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- A0-bc-o-12-O-UI /clone_end=3 /gb=AA819338 /gi=2889427 /ug=Rn.1999 /len=544	Type I membrane protein. Endoplasmic reticulum.	"Translocon- associated protein, delta subunit precursor (TRAP- delta)(Signal sequence receptor delta subunit) (SSR- delta)."
AA8193 38	4816	Q07984	4817	Z69043	4818	P51571	4819	87.92	Signal sequence receptor, delta	rc_AA819338 UI-R-A0-bc-o-12-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- A0-bc-o-12-O-UI /clone_end=3 /gb=AA819338 /gi=2889427 /ug=Rn.1999 /len=544	Type I membrane protein. Endoplasmic reticulum.	"Translocon- associated protein, delta subunit precursor (TRAP- delta)(Signal sequence receptor delta subunit) (SSR- delta)."

Table 2.

AA8183 38	4820	Q07984	4821	Z69043	4822	P51571	4823	87.92	Signal sequence receptor, delta	BC003335	rc_AA819338 UI-R-A0-bc-c-12-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- A0-bc-c-12-O-UI /clone_end=3 /gb=AA819338 /gi=2889427 /ug=Rn.1999 /len=544	Type I membrane protein. Endoplasmic reticulum.	"Translocon- associated protein, delta subunit precursor (TRAP- delta)(Signal sequence receptor delta subunit) (SSR- delta)."
AA8185 00	4824	AAH03 335	4825	M87339	4826	P35249	4827	91.87	ESTs, Highly similar to AC12_HUMA N ACTIVATOR 1 37 KD SUBUNIT [H.sapiens]	BC003335	rc_AA819500 UI-R-A0-bi-c-04-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A0-bi-c- 04-O-UI /clone_end=3 /gb=AA819500 /gi=2889589 /ug=Rn.17046 /len=524		
AA8185 00	4828	AAH03 335	4829	M87339	4830	P35249	4831	91.87	ESTs, Highly similar to AC12_HUMA N ACTIVATOR 1 37 KD SUBUNIT [H.sapiens]	BC003335	rc_AA819500 UI-R-A0-bi-c-04-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A0-bi-c- 04-O-UI /clone_end=3 /gb=AA819500 /gi=2889589 /ug=Rn.17046 /len=524		
AA8185 00	4832	AAH03 335	4833	M87339	4834	P35249	4835	91.87	ESTs, Highly similar to AC12_HUMA N ACTIVATOR 1 37 KD SUBUNIT [H.sapiens]	BC003335	rc_AA819500 UI-R-A0-bi-c-04-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A0-bi-c- 04-O-UI /clone_end=3 /gb=AA819500 /gi=2889589 /ug=Rn.17046 /len=524		

Table 2.

AA819500	4836	AAH03335	4837	IM87339	4838	P35249	4839	91.87	ESTs, Highly similar to AC12_HUMAN ACTIVATOR 137 KD SUBUNIT [H.sapiens]	BC003335	rc_AA819500 UI-R-AO-bi-c-04-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-AO-bi-c-04-O-UI /clone_end=3 /gb=AA819500 /gi=2889589 /ug=Rn.17046 /len=524		
AA848545	4840	NP_062719	4841	BC002506	4842	AAH02506	4843	100	programmed cell death 10 (Pcd10)	NM_019745	rc_AA848545 EST191305 Rattus norvegicus cDNA, 3' end /clone=RKAC95 /clone_end=3 /gb=AA848545 /gi=2836085 /ug=Rn.1176 /len=565		
AA848831	4844	Q61130	4845	NM_001401	4846	Q92633	4847	89.94	putative G-protein coupled receptor GPCR81	AF090347	rc_AA848831 EST191592 Rattus norvegicus cDNA, 3' end /clone=RLUAG91 /clone_end=3 /gb=AA848831 /gi=2836371 /ug=Rn.11200 /len=525	Integral membrane protein.	Lysophosphatidic acid receptor (EDG-2) (REC1.3) (VZG-1).
AA849038	4848	P12947	4849	BC001683	4850	NP_000984	4851	96.25	Ribosomal protein L31	NM_022506	rc_AA849038 EST191800 Rattus norvegicus cDNA, 3' end /clone=RLUAJ81 /clone_end=3 /gb=AA849038 /gi=2836578 /ug=Rn.1101 /len=581		60S ribosomal protein L31.
AA849648	4852	P20280	4853	X04790	4854	P10398	4855	92.86	Rattus norvegicus ribosomal protein L21 mRNA, complete cds		rc_AA849648 EST192415 Rattus norvegicus cDNA, 3' end /clone=RMUAH28 /clone_end=3 /gb=AA849648 /gi=2837188 /ug=Rn.2554 /len=413		60S ribosomal protein L21.
AA849648	4856	P20280	4857	X04790	4858	P10398	4859	92.86	Rattus norvegicus ribosomal protein L21 mRNA, complete cds		rc_AA849648 EST192415 Rattus norvegicus cDNA, 3' end /clone=RMUAH28 /clone_end=3 /gb=AA849648 /gi=2837188 /ug=Rn.2554 /len=413		60S ribosomal protein L21.

Table 2.

AA8496 48	4860	P20280	4861	X04790	4862	P10398	4863	92.86	Rattus norvegicus ribosomal protein L21 mRNA, complete cds	rc_AA849648 EST192415 Rattus norvegicus cDNA, 3' end /clone=RMUAH28 /clone_end=3 /gb=AA849648 /gi=2837188 /ug=Rn.2554 /len=413	60S ribosomal protein L21.
AA8498 48	4864	P20280	4865	X04790	4866	P10398	4867	92.86	Rattus norvegicus ribosomal protein L21 mRNA, complete cds	rc_AA849848 EST192415 Rattus norvegicus cDNA, 3' end /clone=RMUAH28 /clone_end=3 /gb=AA849848 /gi=2837188 /ug=Rn.2554 /len=413	60S ribosomal protein L21.
AA8497 69	4868	Q62632	4869	U06863	4870	Q12841	4871	93	Follistatin- related protein precursor	rc_AA849769 EST192536 Rattus norvegicus cDNA, 3' end /clone=RMUA164 /clone_end=3 /gb=AA849769 /gi=2837309 /ug=Rn.2879 /len=608	Follistatin- related protein 1 precursor.
AA8497 69	4872	Q62632	4873	U06863	4874	Q12841	4875	93	Follistatin- related protein precursor	rc_AA849769 EST192536 Rattus norvegicus cDNA, 3' end /clone=RMUA164 /clone_end=3 /gb=AA849769 /gi=2837309 /ug=Rn.2879 /len=608	Follistatin- related protein 1 precursor.
AA8497 69	4876	Q62632	4877	U06863	4878	Q12841	4879	93	Follistatin- related protein precursor	rc_AA849769 EST192536 Rattus norvegicus cDNA, 3' end /clone=RMUA164 /clone_end=3 /gb=AA849769 /gi=2837309 /ug=Rn.2879 /len=608	Follistatin- related protein 1 precursor.
AA8497 69	4880	Q62632	4881	U06863	4882	Q12841	4883	93	Follistatin- related protein precursor	rc_AA849769 EST192536 Rattus norvegicus cDNA, 3' end /clone=RMUA164 /clone_end=3 /gb=AA849769 /gi=2837309 /ug=Rn.2879 /len=608	Follistatin- related protein 1 precursor.
AA8501 38	4884	B27390	4885	AJ318022	4886	P01842	4887	68	Ig lambda-2 chain C region	rc_AA850138 EST192805 Rattus norvegicus cDNA, 3' end /clone=ROVAC84 /clone_end=3 /gb=AA850138 /gi=2837678 /ug=Rn.129 /len=474	Follistatin- related protein 1 precursor.



Table 2.

AA8507 34	4888	P16612	4889	XM_05267 6	XP_052 876		Vascular endothelial growth factor	NM_00950 5	rc_AA850734 EST193502 Rattus norvegicus cDNA, 3' end /clone=ROVAK16 /clone_end=3 /gb=AA850734 /gi=2938274 /ug=Rn.1923 /len=477	"VEGF-A120 is acidic and freely secreted. VEGF-A164 is more basic, has heparin- binding properties and, although a significant proportion remains cell- associated, most is freely secreted. VEGF-A188 is ver"	Vascular endothelial growth factor A precursor (VEGF-A) (Vascular perme- ability factor) (VPF).
AA8507 81	4890	No Rat Protein Found.	4891	L11667	Q08752	4892	Mus musculus 18 days embryo cDNA, RIKEN		rc_AA850781 EST193549 Rattus norvegicus cDNA, 3' end /clone=ROVAK70 /clone_end=3 /gb=AA850781 /gi=2938321 /ug=Rn.7995 /len=550		
AA8508 40	4893	P50878	4894	L20868	P36578	4896	Ribosomal protein L4		rc_AA850840 EST193708 Rattus norvegicus cDNA, 3' end /clone=ROVAO65 /clone_end=3 /gb=AA850840 /gi=2938480 /ug=Rn.1133 /len=619		60S ribosomal protein L4 (L-1).
AA8513 81	4897	Q82639	4898	AW02041 4	Q15382	4900	Ras homolog enriched in brain		rc_AA851381 EST194149 Rattus norvegicus cDNA, 3' end /clone=RPLAF91 /clone_end=3 /gb=AA851381 /gi=2938921 /ug=Rn.859 /len=618		GTP-binding protein Rheb.

Table 2.

AA8514 03	4901	NP_080 337	4902	BI488555	4903	XP_030 429	94.34	ESTs, Moderately similar to JE0382 NADH dehydrogenas e [H.sapiens]	rc_AA851403 EST194171 Rattus norvegicus cDNA, 3' end /clone=RPLAG17 /clone_end=3 /gb=AA851403 /gi=2938943 /ug=Rn.3383 /len=393
AA8514 03	4904	NP_080 337	4905	BI488555	4908	XP_030 429	94.34	Homo sapiens NADH dehydrogenas e (ubiquinone) 1 beta subcomplex, 8	rc_AA851403 EST194171 Rattus norvegicus cDNA, 3' end /clone=RPLAG17 /clone_end=3 /gb=AA851403 /gi=2938943 /ug=Rn.3383 /len=393
AA8514 03	4907	NP_080 337	4908	BI488555	4909	XP_030 429	94.34	ESTs, Moderately similar to JE0382 NADH dehydrogenas e [H.sapiens]	rc_AA851403 EST194171 Rattus norvegicus cDNA, 3' end /clone=RPLAG17 /clone_end=3 /gb=AA851403 /gi=2938943 /ug=Rn.3383 /len=393
AA8514 03	4910	NP_080 337	4911	BI488555	4912	XP_030 429	94.34	Homo sapiens NADH dehydrogenas e (ubiquinone) 1 beta subcomplex, 8	rc_AA851403 EST194171 Rattus norvegicus cDNA, 3' end /clone=RPLAG17 /clone_end=3 /gb=AA851403 /gi=2938943 /ug=Rn.3383 /len=393
AA8520 04	4913	P09606	4814	XM_04646 8	XP_046 468	92	Glutamine synthetase	NM_01707 3	rc_AA852004 EST194773 Rattus norvegicus cDNA, 3' end /clone=RSPAP38 /clone_end=3 /gb=AA852004 /gi=2939544 /ug=Rn.2204 /len=368
									Cytoplasmic.
									Glutamine synthetase (EC 6.3.1.2) (Glutamate- ammonia ligase).

Table 2.

AA852055	4915	P55148	4916	U02566	4917	Q06418	4918	88.67	Sky - brain specific tyrosine kinase		rc_AA852055 EST194824 Rattus norvegicus cDNA, 3' end /clone=RSPAP96 /clone_end=3 /gb=AA852055 /gi=2939595 /ug=Rn.8883 /len=494	Type I membrane protein.	Tyrosine-protein kinase receptor TYRO3 precursor (EC 2.7.1.112)(Tyrosine-protein kinase SKY).
AA858572	4919	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA858572 UI-R-EQ-bq-f04-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-EQ-bq-f04-Q-UI /clone_end=3 /gb=AA858572 /gi=2948912 /ug=Rn.83 /len=436		
AA858588	4920	AAC40052	4921	U56402	4922	P51809	4923	88.09	Mus musculus chromatin structural protein homolog Supt5hp	U88539	rc_AA858588 UI-R-EQ-bq-g-07-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-EQ-bq-g-07-Q-UI /clone_end=3 /gb=AA858588 /gi=2948926 /ug=Rn.92 /len=413		
AA858588	4924	AAC40052	4925	U56402	4926	P51809	4927	88.09	Mus musculus chromatin structural protein homolog Supt5hp	U88539	rc_AA858586 UI-R-EQ-bq-g-07-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-EQ-bq-g-07-Q-UI /clone_end=3 /gb=AA858586 /gi=2948926 /ug=Rn.92 /len=413		
AA858607	4928	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA858607 UI-R-EQ-bq-a-08-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-EQ-bq-a-08-Q-UI /clone_end=3 /gb=AA858607 /gi=2948947 /ug=Rn.3532 /len=487		
AA858617	4929	NP_075784	4930	AK027278	4931	XP_050746	4932	91	TC10-like Rho GTPase	NM_023275	rc_AA858617 UI-R-EQ-bq-b-08-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-EQ-bq-b-08-Q-UI /clone_end=3 /gb=AA858617 /gi=2948957 /ug=Rn.22615 /len=546		

Table 2.

AA858640	4933	No Rat Protein Found.	4935	AB009398	No human homolog found.	4936	Q8UNM6	No Human Protein Found.	4937	90.48	Rat CDK110 mRNA (Y17319) / HSP60 (NM_022229) (Double cDNA)	NM_011875	rc_AA858640 UI-R-E0-bq-d-08-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-bq-d-08-Q-UI /clone_end=3 /gb=AA858640 /gi=2948980 /ug=Rn.221 /len=463			
AA858679	4934	NP_036005	4935	AB009398		4936	Q8UNM6	No Human Protein Found.	4937	90.48	Mus musculus proteasome (prosome, macropain) 26S subunit, non-ATPase, 13 (Psm13)	NM_011875	rc_AA858679 UI-R-A0-bd-b-09-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A0-bd-b-09-Q-UI /clone_end=3 /gb=AA858679 /gi=2948230 /ug=Rn.16918 /len=520			
AA858683	4938	No Rat Protein Found.		AW905020		4939	No Human Protein Found.	No Human Protein Found.		92.08	EST (not recognized)		rc_AA858683 UI-R-E0-bv-f-07-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-bv-f-07-Q-UI /clone_end=3 /gb=AA858683 /gi=2949003 /ug=Rn.231 /len=416			
AA858685	4940	No Rat Protein Found.			No human homolog found.		No Human Protein Found.	No Human Protein Found.			EST(not recognised)		rc_AA858685 UI-R-E0-br-b-07-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-br-b-07-Q-UI /clone_end=3 /gb=AA858685 /gi=2949044 /ug=Rn.251 /len=482			
AA858685	4941	Q8ERM3	4942	BI521353		4943	XP_035370	No Human Protein Found.	4944	89.11	Diacylglycerol acyltransferase	AF296131	rc_AA858685 UI-R-E0-br-b-12-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-br-b-12-Q-UI /clone_end=3 /gb=AA858685 /gi=2949049 /ug=Rn.252 /len=431		Integral membrane protein. Endoplasmic reticulum.	Diacylglycerol acyltransferase 1 (EC 2.3.1.20) (Diglycerideacyltransferase).

Table 2.

AA8595 81	4945	AAD16 986	4946	NM_0314 76	4947	NP_113 664	4948	86	Rattus norvegicus late gestation lung protein 1 (Lg1) mRNA, complete cds	AF108674	rc_AA859581 UI-R-E0-bv-d-01-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- E0-bv-d-01-Q-UI /clone_end=3 /gb=AA859581 /gi=2849101 /ug=Rn.4346 /len=540
AA8595 81	4949	AAD16 986	4950	NM_0314 76	4951	NP_113 664	4952	86	Rattus norvegicus late gestation lung protein 1 (Lg1) mRNA, complete cds	AF108674	rc_AA859581 UI-R-E0-bv-d-01-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- E0-bv-d-01-Q-UI /clone_end=3 /gb=AA859581 /gi=2849101 /ug=Rn.4346 /len=540
AA8595 97	4953	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA859597 UI-R-E0-bs-e-07-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- E0-bs-e-07-Q-UI /clone_end=3 /gb=AA859597 /gi=2849117 /ug=Rn.8504 /len=464
AA8595 97	4954	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA859597 UI-R-E0-bs-e-07-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- E0-bs-e-07-Q-UI /clone_end=3 /gb=AA859597 /gi=2849117 /ug=Rn.8504 /len=464
AA8596 27	4955	No Rat Protein Found.		AB046797	4956	No Human Protein Found.		97.14	EST (not recognized)		rc_AA859627 UI-R-E0-bs-h-03-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- E0-bs-h-03-Q-UI /clone_end=3 /gb=AA859627 /gi=2849147 /ug=Rn.25 /len=419
AA8596 32	4957	NP_035 388	4958	L23320	4959	AAA161 21	4960		Mus musculus replication factor C, 140 kDa (Recct1)	NM_01125 8	rc_AA859632 UI-R-E0-bs-h-08-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- E0-bs-h-08-Q-UI /clone_end=3 /gb=AA859632 /gi=2849152 /ug=Rn.8208 /len=446

Table 2.

AA859665	4981	No Rat Protein Found.	4983	X79888	4984	NP_001689	4965	90.35	Mus musculus adult male testis cDNA, RIKEN	NM_016709	rc_AA859665 UI-R-E0-bx-c-09-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bx-c-09-Q-UI /clone_end=3 /gb=AA859665 /gi=2949185 /ug=Rn.43 /len=400		
AA859688	4982	NP_057918	4983	X79888	4984	NP_001689	4965	90.35	AU RNA-binding protein/enoyl-coenzyme A hydratase	NM_016709	rc_AA859688 UI-R-E0-bx-e-09-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bx-e-09-Q-UI /clone_end=3 /gb=AA859688 /gi=2949208 /ug=Rn.50 /len=438		
AA859690	4986	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA859890 UI-R-E0-bx-e-11-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bx-e-11-Q-UI /clone_end=3 /gb=AA859890 /gi=2949210 /ug=Rn.51 /len=419		
AA859693	4987	No Rat Protein Found.		AK001631	4968	No Human Protein Found.	4969	88.52	EST (not recognized)		rc_AA859893 UI-R-E0-bx-f-02-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bx-f-02-Q-UI /clone_end=3 /gb=AA859893 /gi=2949213 /ug=Rn.24864 /len=505		
AA859702	4970	Q01205	4971	AI184508	4972	P55196	4973	95.76	Afadin (AF-6)	NM_013217	rc_AA859702 UI-R-E0-bx-g-01-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bx-g-01-Q-UI /clone_end=3 /gb=AA859702 /gi=2949222 /ug=Rn.58 /len=486	Mitochondrial	"Dihydrolipoamide succinyltransferase component of 2-oxoglutarate dehydrogenase complex, mitochondrial precursor (EC 2.3.1.61) (E2)(E2K)."
AA859718	4974	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA859718 UI-R-E0-bx-h-05-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bx-h-05-Q-UI /clone_end=3 /gb=AA859718 /gi=2949238 /ug=Rn.66 /len=476		

Table 2.

AA8597 19	4975	NP_079 750	4976	No human homolog found.	No Human Protein Found.		EST, weakly similar to Mus musculus mitochondrial ribosomal protein S14	NM_02547 4	rc_AA859719 UI-R-EQ-bx-h-06-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EQ-bx-h-06-Q-UI /clone_end=3 /gb=AA859719 /gi=2949239 /ug=Rn.67 /len=514	
AA8597 40	4977	BAA892 48	4978	XNM_01769 8	4979	XP_017 698	84	AB024566	rc_AA859740 UI-R-EQ-bx-b-08-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EQ-bx-b-08-Q-UI /clone_end=3 /gb=AA859740 /gi=2949260 /ug=Rn.22626 /len=418	
AA8597 50	4981	No Rat Protein Found.		AI671553	4982	No Human Protein Found.	95.88		rc_AA859750 UI-R-EQ-bx-c-05-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EQ-bx-c-05-Q-UI /clone_end=3 /gb=AA859750 /gi=2949270 /ug=Rn.7937 /len=441	
AA8597 83	4983	P09886	4984	NM_0210 29	4985	NP_066 357	100	NM_03110 5	rc_AA859783 UI-R-EQ-bu-f-04-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-EQ-bu-f- 04-Q-UI /clone_end=3 /gb=AA859783 /gi=2949303 /ug=Rn.755 /len=480	Cytoplasmic. 60S ribosomal protein L44 (L38a).
AA8597 88	4987	BAB409 98	4988	AK026165	4989	P62912	86.49	AB048945	rc_AA859788 UI-R-EQ-bu-f-11-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-EQ-bu-f- 11-Q-UI /clone_end=3 /gb=AA859788 /gi=2949308 /ug=Rn.759 /len=423	
AA8598 05	4991	No Rat Protein Found.		L21186	4992	Q08397	84.04		rc_AA859805 UI-R-EQ-bu-h-10-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EQ-bu-h-10-Q-UI /clone_end=3 /gb=AA859805 /gi=2949325 /ug=Rn.770 /len=433	
AA8598 27	4994	BAA830 85	4995	BF745219	4996	P04155	93.27		rc_AA859827 UI-R-EQ-co-f-10-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-EQ-co-f- 10-Q-UI /clone_end=3 /gb=AA859827 /gi=2949347 /ug=Rn.24811 /len=500	

Table 2.

AA8598 32	4998	No Rat Protein Found.	AI139056	4999	No Human Protein Found.	91	Mus musculus 18 days embryo cDNA, RIKEN	rc_AA859832 UI-R-E0-cc-g-04-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cc-g-04-Q-UI /clone_end=3 /gb=AA859832 /gi=2849352 /ug=Rn.22318 /len=558	Arrestin-D (Fragment).
AA8598 37	5000	P36577	NM_0042 93	5002	Q8Y2T3	87.87	Guanine deaminase	rc_AA859837 UI-R-E0-cc-g-09-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cc-g-09-Q-UI /clone_end=3 /gb=AA859837 /gi=2849357 /ug=Rn.24783 /len=486	Arrestin-D (Fragment).
AA8598 37	5004	P36577	NM_0042 93	5006	Q8Y2T3	87.87	Guanine deaminase	rc_AA859837 UI-R-E0-cc-g-09-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cc-g-09-Q-UI /clone_end=3 /gb=AA859837 /gi=2849357 /ug=Rn.24783 /len=486	Arrestin-D (Fragment).
AF0313 81	5008	AAB864 95	NM_0183 39	5010	NP_060 809	5011	Mus musculus KOL-4 gene, partial cds	rc_AA859848 UI-R-E0-cc-h-10-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cc-h-10-Q-UI /clone_end=3 /gb=AA859848 /gi=2849368 /ug=Rn.790 /len=549	
AA8598 97	5012	AF3048 55	XM_00732 5	5014	XP_007 325	5015	sel-1 (suppressor of lin-12, C.elegans)- like (SEL1L),	rc_AA859897 UI-R-E0-cc-a-01-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cc-a-01-Q-UI /clone_end=3 /gb=AA859897 /gi=2849417 /ug=Rn.808 /len=562	



Table 2.

AA8599 11	5016	Q11205	5017	X96667	5018	JC5251	5019	87.89	Sialyltransferase ss 5	rc_AA859911 UI-R-E0-cg-b-05-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- E0-cg-b-05-Q-UI /clone_end=3 /gb=AA859911 /gi=2949431 /ug=Rn.24851 /len=447	"TYPE II MEMBRANE PROTEIN. MEMBRANE- BOUND FORM IN TRANS CISTERNAE OF GOLGI, SOLUBLE FORM IN BODY FLUIDS."	"CMP-N- acetylneuramina- te-beta- galactosamide- alpha-2,3- sialyltransferase (EC 2.4.99.-) (Beta- galactoside alpha-2,3- sialyltransferase ) (Alpha2,3-ST) (Gal-NAC6S) (Gal-beta-1,3- GalNAc-alpha- 2,3-sialyltransf"
AA8599 11	5020	Q11205	5021	X96667	5022	JC5251	5023	87.89	Sialyltransferase ss 5	rc_AA859911 UI-R-E0-cg-b-05-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- E0-cg-b-05-Q-UI /clone_end=3 /gb=AA859911 /gi=2949431 /ug=Rn.24851 /len=447	"TYPE II MEMBRANE PROTEIN. MEMBRANE- BOUND FORM IN TRANS CISTERNAE OF GOLGI, SOLUBLE FORM IN BODY FLUIDS."	"CMP-N- acetylneuramina- te-beta- galactosamide- alpha-2,3- sialyltransferase (EC 2.4.99.-) (Beta- galactoside alpha-2,3- sialyltransferase ) (Alpha2,3-ST) (Gal-NAC6S) (Gal-beta-1,3- GalNAc-alpha- 2,3-sialyltransf"

Table 2.

AA8599 19	5024	No Rat Protein Found.	AV699259	5025	No Human Protein Found.	93.81	Homo sapiens clone 015h12 My015 protein	rc_AA859919 UI-R-EO-cg-o-01-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cg-o-01-Q-UI /clone_end=3 /gb=AA859919 /gi=2949439 /ug=Rn.2696 /len=474
AA8599 18	5026	No Rat Protein Found.	AV699259	5027	No Human Protein Found.	93.81	Homo sapiens clone 015h12 My015 protein	rc_AA859919 UI-R-EO-cg-o-01-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cg-o-01-Q-UI /clone_end=3 /gb=AA859919 /gi=2949439 /ug=Rn.2698 /len=474
AA8599 21	5028	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		28S ribosomal RNA	rc_AA859921 UI-R-EO-cg-o-03-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cg-o-03-Q-UI /clone_end=3 /gb=AA859921 /gi=2949441 /ug=Rn.14551 /len=314
AA8599 31	5029	No Rat Protein Found.	BC001080	5030	No Human Protein Found.	5031	Mus musculus 10, 11 days embryo cDNA, RIKEN	rc_AA859931 UI-R-EO-cg-d-01-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cg-d-01-Q-UI /clone_end=3 /gb=AA859931 /gi=2949451 /ug=Rn.822 /len=506
AA8599 31	5032	No Rat Protein Found.	BC001080	5033	No Human Protein Found.	5034	Mus musculus 10, 11 days embryo cDNA, RIKEN	rc_AA859931 UI-R-EO-cg-d-01-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cg-d-01-Q-UI /clone_end=3 /gb=AA859931 /gi=2949451 /ug=Rn.822 /len=506
AA8599 33	5035	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		EST(not recognised)	rc_AA859933 UI-R-EO-cg-d-03-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cg-d-03-Q-UI /clone_end=3 /gb=AA859933 /gi=2949463 /ug=Rn.824 /len=517
AA8599 33	5036	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		EST(not recognised)	rc_AA859933 UI-R-EO-cg-d-03-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cg-d-03-Q-UI /clone_end=3 /gb=AA859933 /gi=2949463 /ug=Rn.824 /len=517

Table 2.

AA8599 33	5037	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)	rc_AA859933 UI-R-E0-cg-d-03-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cg-d-03-Q-UI /clone_end=3 /gb=AA859933 /gi=2849453 /ug=Rn.824 /len=517
AA8599 33	5038	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)	rc_AA859933 UI-R-E0-cg-d-03-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cg-d-03-Q-UI /clone_end=3 /gb=AA859933 /gi=2849453 /ug=Rn.824 /len=517
AA8599 37	5039	No Rat Protein Found.	AI581056	5040	EST (not recognized)	rc_AA859937 UI-R-E0-cg-d-07-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cg-d-07-Q-UI /clone_end=3 /gb=AA859937 /gi=2849457 /ug=Rn.826 /len=419
AA8599 37	5042	No Rat Protein Found.	AI581056	5043	EST (not recognized)	rc_AA859937 UI-R-E0-cg-d-07-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cg-d-07-Q-UI /clone_end=3 /gb=AA859937 /gi=2849457 /ug=Rn.826 /len=419
AA8599 51	5045	No Rat Protein Found.	RA0468	5046	EST (not recognized)	rc_AA859951 UI-R-E0-ca-e-09-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ca-e-09-Q-UI /clone_end=3 /gb=AA859951 /gi=2849471 /ug=Rn.837 /len=462
AA8599 52	5047	No Rat Protein Found.	BC007384	5048	Homo sapiens similar to early development regulator 2	rc_AA859952 UI-R-E0-ca-e-10-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ca-e-10-Q-UI /clone_end=3 /gb=AA859952 /gi=2849472 /ug=Rn.22632 /len=443
AA8599 54	5050	No Rat Protein Found.	AK024969	5051	Homo sapiens HSPC292 mRNA, partial cds	rc_AA859954 UI-R-E0-ca-f-01-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ca-f- 01-Q-UI /clone_end=3 /gb=AA859954 /gi=2849474 /ug=Rn.840 /len=519
AA8599 66	5053	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Strong homology with 18S rRNA (V01270)	rc_AA859966 UI-R-E0-ca-g-03-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ca-g-03-Q-UI /clone_end=3 /gb=AA859966 /gi=2849486 /ug=Rn.961 /len=392

Table 2.

AA8599 82	5054	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		EST (not recognized)		rc_AA859982 UI-R-E0-ca-h-10-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- E0-ca-h-10-Q-UI /clone_end=3 /gb=AA859982 /gi=2849502 /ug=Rn.18656 /len=532
AA8599 96	5055	No Rat Protein Found.		AB046773	5056	No Human Protein Found.	87.59	Homo sapiens cDNA: FLJ23343 fis, clone HEP13562		rc_AA859986 UI-R-E0-ca-b-04-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- E0-ca-b-04-Q-UI /clone_end=3 /gb=AA859986 /gi=2849516 /ug=Rn.22634 /len=553
AA8600 10	5057	AAH11 480	5058	NM_0007 42	5059	Q15822	5060	Similar to cholinergic receptor, nicotinic, alpha polypeptide 2 (neuronal)	BC011490	rc_AA860010 UI-R-E0-ca-c-07-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- E0-ca-c-07-Q-UI /clone_end=3 /gb=AA860010 /gi=2849530 /ug=Rn.872 /len=400
AA8600 15	5061	No Rat Protein Found.		F34867	5062	XP_002 616	95.2	ESTs, Weakly similar to T50507 hypothetical protein DKFZp434I10 16.1 [H.sapiens]		rc_AA860015 UI-R-E0-ca-c-12-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- E0-ca-c-12-Q-UI /clone_end=3 /gb=AA860015 /gi=2849535 /ug=Rn.857 /len=580
AA8600 17	5063	CAA76 850	5064	BC001869	5065	AAC395 75	92.55	Mus musculus mRNA for Dut1 protein (strong homology to Roundabout 1)	Y17793	rc_AA860017 UI-R-E0-ca-d-02-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- E0-ca-d-02-Q-UI /clone_end=3 /gb=AA860017 /gi=2849537 /ug=Rn.876 /len=528
AA8600 44	5067	AAH03 203	5068	Z93930	5069	CAB450 16	5070	Contains the XBP1 gene for X-box binding protein 1		rc_AA860044 UI-R-E0-bz-f-12-Q-UI.s2 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-bz-f- 12-Q-UI /clone_end=3 /gb=AA860044 /gi=2849564 /ug=Rn.883 /len=442

Table 2.

AA8600 49	5071	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			Mus musculus adult male colon cDNA, RIKEN		rc_AA860049 UI-R-EQ-bz-g-05-Q-UI.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R- EQ-bz-g-05-Q-UI /clone_end=3 /gb=AA860049 /gi=28495689 /ug=Rn.898 /len=375
AA8662 40	5072	AAA410 36	5073	NM_0007 69	5074	P33261	5075	72	cytochrome P450 mRNA	NM_01715 8	rc_AA866240 UI-R-AO-bg-g-05-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- AO-bg-g-05-Q-UI /clone_end=3 /gb=AA866240 /gi=2961686 /ug=Rn.3010 /len=281
AA8662 40	5076	AAA410 36	5077	NM_0007 69	5078	P33261	5079	72	cytochrome P450 mRNA	NM_01715 8	rc_AA866240 UI-R-AO-bg-g-05-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- AO-bg-g-05-Q-UI /clone_end=3 /gb=AA866240 /gi=2961686 /ug=Rn.3010 /len=291
AA8662 40	5080	AAA410 36	5081	NM_0007 69	5082	P33261	5083	72	cytochrome P450 mRNA	NM_01715 8	rc_AA866240 UI-R-AO-bg-g-05-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- AO-bg-g-05-Q-UI /clone_end=3 /gb=AA866240 /gi=2961686 /ug=Rn.3010 /len=291
AA8662 40	5084	AAA410 36	5085	NM_0007 69	5086	P33261	5087	72	cytochrome P450 mRNA	NM_01715 8	rc_AA866240 UI-R-AO-bg-g-05-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- AO-bg-g-05-Q-UI /clone_end=3 /gb=AA866240 /gi=2961686 /ug=Rn.3010 /len=291
AA8662 57	5088	AAH05 733	5089	No human homolog found.		No Human Protein Found.			Rat EST (mouse hypothetical protein)		rc_AA866257 UI-R-AO-bd-g-09-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- AO-bd-g-09-Q-UI /clone_end=3 /gb=AA866257 /gi=2961718 /ug=Rn.3025 /len=420
AA8662 76	5090	NP_058 665	5091	AK027693	5092	Q96S97	5093	94.64	myeloid- associated differentiation marker (weakly similar)	NM_01696 9	rc_AA866276 UI-R-AO-bg-b-06-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- AO-bg-b-06-Q-UI /clone_end=3 /gb=AA866276 /gi=2961737 /ug=Rn.3035 /len=476
AA8662 89	5094	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA866289 UI-R-AO-ac-f-12-Q-UI.s3 Rattus norvegicus cDNA, 3 end /clone=UI-R-AO-ac-f- 12-Q-UI /clone_end=3 /gb=AA866289 /gi=2961760 /ug=Rn.3049 /len=395

Table 2.

AA8662 98	5095	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)	rc_AA866298 UI-R-A0-ac-f-12-O-UI.s3 Rattus norvegicus cDNA, 3 end /clone=UI-R-A0-ac-f- 12-O-UI /clone_end=3 /gb=AA866289 /gi=2961760 /ug=Rn.3049 /len=395
AA8663 08	5098	No Rat Protein Found.	BG281391	5097	90	EST (not recognized)	rc_AA866308 UI-R-A0-ac-g-09-O-UI.s3 Rattus norvegicus cDNA, 3 end /clone=UI-R- A0-ac-g-09-O-UI /clone_end=3 /gb=AA866308 /gi=2961767 /ug=Rn.3054 /len=291
AA8663 58	5098	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	rc_AA866358 UI-R-A0-bm-b-07-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- A0-bm-b-07-Q-UI /clone_end=3 /gb=AA866358 /gi=2961819 /ug=Rn.3077 /len=239
AA8663 58	5099	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	rc_AA866358 UI-R-A0-bm-b-07-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- A0-bm-b-07-Q-UI /clone_end=3 /gb=AA866358 /gi=2961819 /ug=Rn.3077 /len=239
AA8663 71	5100	BAB221 40	AW40824 1	5102	96.15	RIKEN full- length cDNA (mouse) with myb transforming protein domain	rc_AA866371 UI-R-A0-bm-d-03-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- A0-bm-d-03-O-UI /clone_end=3 /gb=AA866371 /gi=2961832 /ug=Rn.7220 /len=381
AA8663 71	5103	BAB221 40	AW40824 1	5105	96.15	RIKEN full- length cDNA (mouse) with myb transforming protein domain	rc_AA866371 UI-R-A0-bm-d-03-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- A0-bm-d-03-O-UI /clone_end=3 /gb=AA866371 /gi=2961832 /ug=Rn.7220 /len=381
AA8664 09	5106	No Rat Protein Found.	XLM_03155 3	5107	84	Homo sapiens KIAA0332 protein (KIAA0332)	rc_AA866409 UI-R-E0-ch-a-03-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-ch-a-03-O-UI /clone_end=3 /gb=AA866409 /gi=2961870 /ug=Rn.21410 /len=467

Table 2.

AA8664 19	5109	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST not recognized	rc_AA866419 UI-R-E0-ch-c-04-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ch-c-04-Q-UI /clone_end=3 /gb=AA866419 /gi=2861880 /ug=Rn.3089 /len=520
AA8664 39	5110	No Rat Protein Found.	AK057056	5111	91.07	EST(not recognised)	rc_AA866439 UI-R-E0-ch-g-02-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ch-g-02-Q-UI /clone_end=3 /gb=AA866439 /gi=2861900 /ug=Rn.3109 /len=248
AA8664 39	5112	No Rat Protein Found.	AK057056	5113	91.07	EST(not recognised)	rc_AA866439 UI-R-E0-ch-g-02-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ch-g-02-Q-UI /clone_end=3 /gb=AA866439 /gi=2861900 /ug=Rn.3109 /len=248
AA8664 44	5114	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognised)	rc_AA866444 UI-R-E0-ch-h-01-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ch-h-01-Q-UI /clone_end=3 /gb=AA866444 /gi=2861905 /ug=Rn.3112 /len=276
AA8664 54	5115	No Rat Protein Found.	AK000281	5116	5117	Rat alpha-2(I) Promoter	rc_AA866454 UI-R-E0-br-e-07-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-br-e- 07-Q-UI /clone_end=3 /gb=AA866454 /gi=2861815 /ug=Rn.3115 /len=516
AA8664 54	5118	No Rat Protein Found.	AK000261	5119	5120	Rat alpha-2(I) Promoter	rc_AA866454 UI-R-E0-br-e-07-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-br-e- 07-Q-UI /clone_end=3 /gb=AA866454 /gi=2861815 /ug=Rn.3115 /len=516
AA8664 71	5121	AAH08 539	5122	5123	5124	Unnamed protein product	rc_AA866471 UI-R-E0-br-g-08-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-br-g- 08-Q-UI /clone_end=3 /gb=AA866471 /gi=2861832 /ug=Rn.3120 /len=537
AA8747 91	5125	NP_035 847	5126	5127	94.44	hypothetical gene supported by AK027615	rc_AA874791 UI-R-E0-bw-f-06-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-bw-f-06-Q-UI /clone_end=3 /gb=AA874791 /gi=2878739 /ug=Rn.3125 /len=436

Table 2.

AA8747 94	5128	AAF751 30	5129	NIM_0143 80	5130	P00001	5131	90.1	p75NTR- associated cell death executor; NADE	AF187065	rc_AA874794 UI-R-E0-bw-f-10-Q-UJ.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-bw-f-10-Q-UJ /clone_end=3 /gb=AA874794 /gi=2879742 /ug=Rn.3126 /len=523		
AA8747 94	5132	AAF751 30	5133	NIM_0143 80	5134	P00001	5135	90.1	p75NTR- associated cell death executor; NADE	AF187065	rc_AA874794 UI-R-E0-bw-f-10-Q-UJ.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-bw-f-10-Q-UJ /clone_end=3 /gb=AA874794 /gi=2879742 /ug=Rn.3126 /len=523		
AA8748 02	5136	P43278	5137	NIM_0053 18	5138	P07305	5139	94	histone H10 (H1 subtype)	X70865	rc_AA874802 UI-R-E0-bw-g-07-Q-UJ.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-bw-g-07-Q-UJ /clone_end=3 /gb=AA874802 /gi=2879750 /ug=Rn.3129 /len=536	Nuclear.	Histone H1.0 (H1(O)) (Histone H1').
AA8748 03	5140	No Rat Protein Found.		INC_00180 7		NP_008 352		89	ESTs, Moderately similar to 0806162L protein URF5 [M.musculus]		rc_AA874803 UI-R-E0-bw-g-08-Q-UJ.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-bw-g-08-Q-UJ /clone_end=3 /gb=AA874803 /gi=2879751 /ug=Rn.3130 /len=524		
AA8748 03	5141	No Rat Protein Found.		INC_00180 7		NP_008 352		89	ESTs, Moderately similar to 0806162L protein URF5 [M.musculus]		rc_AA874803 UI-R-E0-bw-g-08-Q-UJ.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-bw-g-08-Q-UJ /clone_end=3 /gb=AA874803 /gi=2879751 /ug=Rn.3130 /len=524		
AA8748 27	5142	No Rat Protein Found.		D13633	5143	Q15398	5144		ESTs, Weakly similar to Y008_HUMAN HYPOTHETIC AL PROTEIN KIAA0008 [H.sapiens]		rc_AA874827 UI-R-E0-cg-e-12-Q-UJ.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cg-e-12-Q-UJ /clone_end=3 /gb=AA874827 /gi=2879775 /ug=Rn.3137 /len=477		
AA8748 73	5145	NP_084 537	5146	A1497723	5147	No Human Protein Found.		97.33	EST (mouse hypothetical protein)		rc_AA874873 UI-R-E0-cl-d-11-Q-UJ.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cl-d- 11-Q-UJ /clone_end=3 /gb=AA874873 /gi=2879821 /ug=Rn.3156 /len=568		



Table 2.

AA8748 73	5148	No Rat Protein Found.	A1497723	5149	No Human Protein Found.	97.33	Mus musculus, clone MGC:7182 IMAGE:34816 73	rc_AA874873 UI-R-E0-cl-d-11-O-U1.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cl-d- 11-O-U1 /clone_end=3 /gb=AA874873 /gi=2979821 /ug=Rn.3156 /len=568
AA8748 73	5150	NP_084 537	A1497723	5152	No Human Protein Found.	97.33	EST (mouse hypothetical protein)	rc_AA874873 UI-R-E0-cl-d-11-O-U1.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cl-d- 11-O-U1 /clone_end=3 /gb=AA874873 /gi=2979821 /ug=Rn.3156 /len=568
AA8748 73	5153	No Rat Protein Found.	A1497723	5154	No Human Protein Found.	97.33	Mus musculus, clone MGC:7182 IMAGE:34816 73	rc_AA874873 UI-R-E0-cl-d-11-O-U1.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cl-d- 11-O-U1 /clone_end=3 /gb=AA874873 /gi=2979821 /ug=Rn.3156 /len=568
AA8748 74	5155	AAC52 763	M29872	5157	P11766	89.3	ESTs, Highly similar to ALCOHOL DEHYDROGE NASE CLASS III [R.norvegicus]	rc_AA874874 UI-R-E0-cl-d-12-O-U1.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cl-d- 12-O-U1 /clone_end=3 /gb=AA874874 /gi=2979822 /ug=Rn.3157 /len=513
AA8748 74	5159	AAC52 763	M29872	5161	P11766	89.3	ESTs, Highly similar to ALCOHOL DEHYDROGE NASE CLASS III [R.norvegicus]	rc_AA874874 UI-R-E0-cl-d-12-O-U1.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cl-d- 12-O-U1 /clone_end=3 /gb=AA874874 /gi=2979822 /ug=Rn.3157 /len=513
AA8748 97	5163	NP_077 794	No human homolog found.	5164	No Human Protein Found.		EST in rat (Mouse hypothetical protein MGC7475)	rc_AA874897 UI-R-E0-ck-e-05-O-U1.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ck-e-05-O-U1 /clone_end=3 /gb=AA874897 /gi=2979845 /ug=Rn.3167 /len=420

Table 2.

AA8749 24	5165	NP_034 875	5166	AB020499	5167	O85711	5168	88.19	lymphocyte antigen 86 (Ly86)	NM_01074 5	rc_AA874924 UI-R-E0-ck-h-02-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-ck-h-02-O-UI /clone_end=3 /gb=AA874924 /gi=2979872 /ug=Rn.3176 /len=526
AA8749 26	5168	No Rat Protein Found.		AJ008470	5170	O75718	5171	92.65	Homo sapiens mRNA; cDNA DKFZp434M1 616		rc_AA874926 UI-R-E0-ck-h-06-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-ck-h-06-O-UI /clone_end=3 /gb=AA874926 /gi=2979874 /ug=Rn.806 /len=477
AA8749 34	5172	BAA234 30	5173	NM_0035 86	5174	NP_003 577	5175	79	Doc2	D50000	rc_AA874934 UI-R-E0-cl-c-05-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cl-c- 05-O-UI /clone_end=3 /gb=AA874934 /gi=2979882 /ug=Rn.3179 /len=333
AA8749 82	5176	BAA110 34	5177	XM_01716 3		XP_017 163		96	scg (karyopherin beta)	D67015	rc_AA874982 UI-R-E0-cl-c-06-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cl-c- 06-O-UI /clone_end=3 /gb=AA874982 /gi=2979830 /ug=Rn.3185 /len=519
AA8749 93	5178	No Rat Protein Found.		XM_04114 2		XP_041 142		95	Homo sapiens ubiquitin protein ligase E3A (human papilloma virus E8- associated protein, Angelman syndrome)		rc_AA874993 UI-R-E0-cl-d-08-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cl-d- 08-O-UI /clone_end=3 /gb=AA874993 /gi=2979941 /ug=Rn.22108 /len=439
AA8749 95	5179	NP_077 792	5180	XM_03752 9		XP_037 529		100	Hypothetical protein MGCT473 [Mus musculus]	NM_02447 2	rc_AA874995 UI-R-E0-cl-d-08-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cl-d- 08-O-UI /clone_end=3 /gb=AA874995 /gi=2979943 /ug=Rn.3197 /len=525

Table 2.

AA875004	5181	No Rat Protein Found.	BC005350	5182	XP_052115	5183	92.25	Hypothetical Protein	AB033168	rc_AA875004 UI-R-E0-cb-b-07-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cb-b-07-Q-UI /clone_end=3 /gb=AA875004 /gi=2979952 /ug=Rn.2147 /len=402	
AA875019	5184	BAA85182	BC007792	5186	P49750	5187		Nuclear protein ZAP	AB033168	rc_AA875019 UI-R-E0-cb-f-08-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cb-f-08-Q-UI /clone_end=3 /gb=AA875019 /gi=2979967 /ug=Rn.3204 /len=513	
AA875019	5188	BAA85182	BC007792	5189	P49750	5191		Nuclear protein ZAP	AB033168	rc_AA875019 UI-R-E0-cb-f-08-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cb-f-08-Q-UI /clone_end=3 /gb=AA875019 /gi=2979967 /ug=Rn.3204 /len=513	
AA875023	5192	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA875023 UI-R-E0-cb-f-12-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cb-f-12-Q-UI /clone_end=3 /gb=AA875023 /gi=2979971 /ug=Rn.2864 /len=519	
AA875025	5193	NP_038524	S74445	5194	P29762	5196	91.89	Mus musculus cellular retinoic acid binding protein I (Crabp1)	NM_013496	rc_AA875025 UI-R-E0-cb-g-08-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cb-g-08-Q-UI /clone_end=3 /gb=AA875025 /gi=2979973 /ug=Rn.3207 /len=469	
AA875033	5197	Q9WVH8	NM_006329	5199	Q9UBX5	5200	94.22	Fibulin 5		rc_AA875033 UI-R-E0-cb-h-10-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cb-h-10-Q-UI /clone_end=3 /gb=AA875033 /gi=2979981 /ug=Rn.1689 /len=440	Secreted. Fibulin-5 precursor (FIBL-5) (Developmental arteries and neural crest EGF like protein) (Dance) (Embryonic vascular EGF repeat-containing protein) (EVEC).

Table 2.

AA8750 33	5201	Q8WVH 8	5202	NM_0063 29	5203	Q8UBX6	5204	94.22	Fibulin 5		rc_AA875033 UI-R-E0-cb-h-10-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- E0-cb-h-10-Q-UI /clone_end=3 /gb=AA875033 /gi=2979981 /ug=Rn.1699 /len=440	Secreted.	Fibulin-5 precursor (FBL- 5) (Developmental arteries and neural crestEGF like protein) (Dance) (Embryonic vascular EGF repeat- containingprotei n) (EVEC).
AA8750 37	5205	S19886	5206	L40378	5207	P50453	5208	76	ESTs, Weekly similar to PLASMINOG EN ACTIVATOR INHIBITOR-2, TYPE A [R.norvegicus]		rc_AA875037 UI-R-E0-cb-a-03-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- E0-cb-a-03-Q-UI /clone_end=3 /gb=AA875037 /gi=2979985 /ug=Rn.2559 /len=534		
AA8750 40	5209	AAH05 726	5210	NM_0314 65	5211	NP_113 653	5212	64	Mus musculus, clone IMAGE:35955 85	BC005726	rc_AA875040 UI-R-E0-cb-b-01-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- E0-cb-b-01-Q-UI /clone_end=3 /gb=AA875040 /gi=2979988 /ug=Rn.1747 /len=539		
AA8750 43	5213	Q63572	5214	AF478317	5215	Q15569	5216	91.45	Testis specific protein kinase 1		rc_AA875043 UI-R-E0-cb-c-01-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- E0-cb-c-01-Q-UI /clone_end=3 /gb=AA875043 /gi=2979991 /ug=Rn.7006 /len=359		Testis-specific protein kinase 1 (EC 2.7.1.-).

Table 2.

AA8750 60	5217	O54783	5218	AB029885	5219	Q9Y259	5220	32	ESTs, Weakly similar to KICE RAT CHOLINE/ET HANOLAMIN E KINASE [R.norvegicus]			rc_AA875050 UI-R-E0-cb-d-05-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cb-d-05-O-UI /clone_end=3 /gb=AA875050 /gl=2878998 /ug=Rn.3218 /len=530			
AA8750 54	5221	P28480	5222	BG198443	5223	AAH124 98	5224	90.05	Tcp-1=α complex polypeptide 1	S46763		rc_AA875054 UI-R-E0-cb-e-04-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cb-e-04-O-UI /clone_end=3 /gb=AA875054 /gl=2980002 /ug=Rn.24874 /len=485	Cytoplasmic.		
AA8750 59	5225	No Rat Protein Found.		R67025	5226	No Human Protein Found.		92.91	EST (not recognised)			rc_AA875059 UI-R-E0-cb-f-04-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cb-f- 04-O-UI /clone_end=3 /gb=AA875059 /gl=2980007 /ug=Rn.3224 /len=490		"T-complex protein 1, alpha subunit (TCP-1- alpha) (CCT- alpha)."α	
AA8750 68	5227	P06351	5228	XIM_01116 5		XP_011 165		97	Histone H3.3	X73683		rc_AA875069 UI-R-E0-cb-h-05-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cb-h-05-O-UI /clone_end=3 /gb=AA875069 /gl=2980017 /ug=Rn.3342 /len=543		Histone H3.3 (H3.A) (H3.B) (H3.3Q).	
AA8750 90	5229	No Rat Protein Found.		NIM_0175 95	5230	NP_060 065	5231		I-kappa-B- Interacting Ras-like protein 2 (KBRAS2			rc_AA875090 UI-R-E0-cf-g-01-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cf-g- 01-O-UI /clone_end=3 /gb=AA875090 /gl=2980038 /ug=Rn.15038 /len=481			

Table 2.

AA875099	5232	IO08587	5233	NM_007172	5234	Q9UKX7	5235	85.95	nucleoporin 501	NM_012991	rc_AA875099 UI-R-E0-cf-g-11-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cf-g-11-Q-UI /clone_end=3 /gb=AA875099 /gi=2980047 /ug=Rn.3242 /len=448	*Nuclear. Localizes to the nucleoplasmic fibrils of the nuclear pore complex. In the testis, the localization changes during germ cell differentiation; from the nuclear surface in spermatocytes to the	Nucleoporin 50 kDa (Nuclear pore-associated protein 60 kDa-like).
AA875105	5238	No Rat Protein Found.	No human homolog found.	No human homolog found.	No Human Protein Found.	EST (not recognized)					rc_AA876105 UI-R-E0-cf-h-08-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cf-h-08-Q-UI /clone_end=3 /gb=AA876105 /gi=2980053 /ug=Rn.3245 /len=435		
AA875107	5237	No Rat Protein Found.	No human homolog found.	No human homolog found.	No Human Protein Found.	Mus musculus adult male tongue cDNA, RIKEN					rc_AA876107 UI-R-E0-cf-h-08-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cf-h-08-Q-UI /clone_end=3 /gb=AA876107 /gi=2980055 /ug=Rn.3263 /len=542		

Table 2.

AA8751 21	5238	Q62725	5239	AK055329	5240	A56356	95.41	CCAAT binding factor of CBF-C/NFY- C		rc_AA875121 UI-R-EQ-bu-b-06-O-UI.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R- EQ-bu-b-06-O-UI /clone_end=3 /gb=AA875121 /gi=2980069 /ug=Rn.1457 /len=573	Nuclear.	Nuclear transcription factor Y subunit gamma (NF-Y protein chain C)(Nuclear factor YC) (NF- YC) (CCAAT- binding transcription factorsubunit C) (CBF-C).
AA8751 24	5241	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		EST (not recognized)		rc_AA875124 UI-R-EQ-bu-c-06-O-UI.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R- EQ-bu-c-06-O-UI /clone_end=3 /gb=AA875124 /gi=2980072 /ug=Rn.2798 /len=119		
AA8751 27	5242	BAB262 50	5243	NM_0037 18	5244	Q14004	97.14	CDC2L5 protein kinase (Rat EST; mouse hypothetical protein)		rc_AA875127 UI-R-EQ-bu-d-05-O-UI.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R- EQ-bu-d-05-O-UI /clone_end=3 /gb=AA875127 /gi=2980075 /ug=Rn.18698 /len=579		
AA8751 27	5246	BAB262 50	5247	NM_0037 18	5248	Q14004	97.14	CDC2L5 protein kinase	AK009373	rc_AA875127 UI-R-EQ-bu-d-06-O-UI.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R- EQ-bu-d-06-O-UI /clone_end=3 /gb=AA875127 /gi=2980075 /ug=Rn.18698 /len=579		
AA8751 27	5250	BAB262 50	5251	NM_0037 18	5252	Q14004	97.14	CDC2L5 protein kinase (Rat EST; mouse hypothetical protein)		rc_AA875127 UI-R-EQ-bu-d-05-O-UI.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R- EQ-bu-d-05-O-UI /clone_end=3 /gb=AA875127 /gi=2980075 /ug=Rn.18698 /len=579		
AA8751 27	5254	BAB262 50	5255	NM_0037 18	5256	Q14004	97.14	CDC2L5 protein kinase	AK009373	rc_AA875127 UI-R-EQ-bu-d-05-O-UI.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R- EQ-bu-d-05-O-UI /clone_end=3 /gb=AA875127 /gi=2980075 /ug=Rn.18698 /len=579		

Table 2.

AA875135	5258	P51646	5259	AF100740	5260	Q8Y689	5261	89	R.norvegicus (Sprague Dawley) ARL5 mRNA for ARF-like protein 5		rc_AA875135 UI-R-EQ-bu-h-01-Q-UI.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R-EQ-bu-h-01-Q-UI /clone_end=3 /gb=AA875135 /lg=2980083 /ug=Rn.2803 /len=581	ADP-ribosylation factor-like protein 5.
AA875147	5262	No Rat Protein Found.		D87440	5263	No Human Protein Found.		97.44	Mus musculus 10 days neonate cerebellum cDNA, RIKEN		rc_AA875147 UI-R-EQ-bu-h-03-Q-UI.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R-EQ-bu-h-03-Q-UI /clone_end=3 /gb=AA875147 /lg=2980095 /ug=Rn.766 /len=470	
AA875148	5264	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA875148 UI-R-EQ-bu-h-05-Q-UI.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R-EQ-bu-h-05-Q-UI /clone_end=3 /gb=AA875148 /lg=2980096 /ug=Rn.767 /len=500	
AA875182	5265	NP_079642	5266	No human homolog found.		No Human Protein Found.			Rat EST; mouse hypothetical protein from a Riken		rc_AA875182 UI-R-EQ-cu-e-10-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-EQ-cu-e-10-Q-UI /clone_end=3 /gb=AA875182 /lg=2980140 /ug=Rn.2620 /len=545	
AA875198	5267	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA875198 UI-R-EQ-cu-e-07-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-EQ-cu-e-07-Q-UI /clone_end=3 /gb=AA875198 /lg=2980146 /ug=Rn.2826 /len=513	
AA875206	5268	BAA82267	5269	NM_053067	5270	NP_038466	5271	90.91	DA41	D87950	rc_AA875206 UI-R-EQ-cu-e-07-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-EQ-cu-e-07-Q-UI /clone_end=3 /gb=AA875206 /lg=2980154 /ug=Rn.2830 /len=510	
AA875207	5272	P11517	5273	BG311786	5274	P02023	5275	93.18	Hemoglobin, beta		rc_AA875207 UI-R-EQ-cu-e-10-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-EQ-cu-e-10-Q-UI /clone_end=3 /gb=AA875207 /lg=2980155 /ug=Rn.11417 /len=445	"Hemoglobin beta chain, minor-form."



Table 2.

AA8752 17	5276	No Rat Protein Found.	BF512741	5277	No Human Protein Found.	95.22	EST (not recognized)	rc_AA875217 UI-R-E0-cu-g-08-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- EO-cu-g-08-O-UI /clone_end=3 /gb=AA875217 /gi=2980165 /ug=Rn.2836 /len=405	"Guanine nucleotide- binding protein G(i), alpha-2 subunit (Adenylylating se-inhibiting G alpha protein)."	
AA8752 25	5278	P04897	5279	AK055574	5280	P04899	96.38	Mus musculus, clone IMAGE:35830 47	rc_AA875225 UI-R-E0-cq-a-08-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- EO-cq-a-08-O-UI /clone_end=3 /gb=AA875225 /gi=2980173 /ug=Rn.3036 /len=421	
AA8752 25	5282	P04897	5283	AK055574	5284	P04899	96.38	Mus musculus, clone IMAGE:35830 47	rc_AA875225 UI-R-E0-cq-a-08-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- EO-cq-a-08-O-UI /clone_end=3 /gb=AA875225 /gi=2980173 /ug=Rn.3036 /len=421	
AA8752 53	5286	P41276	5287	L28997	5288	P40616	91.8	Mus musculus adult male tongue cDNA, RIKEN	rc_AA875253 UI-R-E0-cq-d-08-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- EO-cq-d-08-O-UI /clone_end=3 /gb=AA875253 /gi=2980201 /ug=Rn.3065 /len=523	ADP- ribosylation factor-like protein 1.
AA8752 63	5290	No Rat Protein Found.	AF015308	5291	g320196 4	5292	90.45	ESTs, Highly similar to cell cycle- regulated factor p78 [H.sapiens]	rc_AA875263 UI-R-E0-ce-a-08-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- EO-ce-a-08-O-UI /clone_end=3 /gb=AA875263 /gi=2980211 /ug=Rn.2727 /len=452	

Table 2.

AA8752 68	5293	No Rat Protein Found.	BG875078	5294	XP_027 422	80.1	ESTs, Highly similar to NUKM_HUMA N NADH- UBIQUINONE OXIDOREDU CTASE 20 KDA SUBUNIT PRECURSOR [H.sapiens]	rc_AA875268 UI-R-EO-ce-b-04-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ce-b-04-O-UI /clone_end=3 /gb=AA875268 /gi=2980216 /ug=Rn.2855 /len=449
AA8752 69	5295	NP_114 029	AF087514	5297	O00767	83	Rattus norvegicus stearyl-CoA desaturase 2 (Scd2)	rc_AA875269 UI-R-EO-ce-b-05-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ce-b-05-O-UI /clone_end=3 /gb=AA875269 /gi=2980217 /ug=Rn.2627 /len=510
AA8752 75	5299	No Rat Protein Found.	AA781873	5300	No Human Protein Found.	87.5	EST(not recognised)	rc_AA875275 UI-R-EO-ce-c-01-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ce-c-01-O-UI /clone_end=3 /gb=AA875275 /gi=2980223 /ug=Rn.24938 /len=535
AA8752 78	5301	No Rat Protein Found.	AF265210	5302	XP_011 449	87	Homo sapiens Fanconi anemia, complementati on group E (FANCE)	rc_AA875278 UI-R-EO-ce-c-09-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ce-c-09-O-UI /clone_end=3 /gb=AA875278 /gi=2980226 /ug=Rn.2861 /len=530
AA8752 78	5304	No Rat Protein Found.	AF265210	5305	XP_011 449	87	Homo sapiens Fanconi anemia, complementati on group E (FANCE)	rc_AA875278 UI-R-EO-ce-c-09-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ce-c-09-O-UI /clone_end=3 /gb=AA875278 /gi=2980226 /ug=Rn.2861 /len=530
AA8753 27	5307	AAD34 858	D28068	5309	Q15056	95.33	Mus musculus LIM-kinase1 (Limk1)	rc_AA875327 UI-R-EO-cn-h-05-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cn-h-05-O-UI /clone_end=3 /gb=AA875327 /gi=2980275 /ug=Rn.2880 /len=377

Table 2.

AA8753 27	5311	AAD34 858	5312	D26068	5313	Q15056	5314	95.33	Mus musculus LIM-kinase1 (Limk1)	AF139987	rc_AA875327 UI-R-E0-cn-h-05-O-U1.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cn-h-05-O-U1 /clone_end=3 /gb=AA875327 /gi=2980275 /ug=Rn.2880 /len=377
AA8753 27	5315	AAD34 858	5316	D26068	5317	Q15056	5318	95.33	Mus musculus LIM-kinase1 (Limk1)	AF139987	rc_AA875327 UI-R-E0-cn-h-05-O-U1.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cn-h-05-O-U1 /clone_end=3 /gb=AA875327 /gi=2980275 /ug=Rn.2880 /len=377
AA8753 27	5319	AAD34 858	5320	D26068	5321	Q15056	5322	95.33	Mus musculus LIM-kinase1 (Limk1)	AF139987	rc_AA875327 UI-R-E0-cn-h-05-O-U1.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cn-h-05-O-U1 /clone_end=3 /gb=AA875327 /gi=2980275 /ug=Rn.2880 /len=377
AA8753 48	5323	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA875348 UI-R-E0-co-b-06-O-U1.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-co-b-06-O-U1 /clone_end=3 /gb=AA875348 /gi=2980298 /ug=Rn.2887 /len=455
AA8753 82	5324	No Rat Protein Found.		AA808851	5325	No Human Protein Found.		96.55	EST (not recognised)		rc_AA875362 UI-R-E0-co-o-10-O-U1.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-co-o-10-O-U1 /clone_end=3 /gb=AA875362 /gi=2980310 /ug=Rn.2894 /len=402
AA8754 25	5326	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			Human DNA sequence from clone RP5-1169J3		rc_AA875425 UI-R-E0-cs-f-07-O-U1.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cs-f- 07-O-U1 /clone_end=3 /gb=AA875425 /gi=2980373 /ug=Rn.2915 /len=521
AA8754 28	5327	No Rat Protein Found.		NM_0221 71	5328	No Human Protein Found.		84.21	EST (not recognised)		rc_AA875428 UI-R-E0-cs-f-12-O-U1.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cs-f- 12-O-U1 /clone_end=3 /gb=AA875428 /gi=2980376 /ug=Rn.2916 /len=477
AA8754 44	5329	Q62950	5330	XM_04808 0		XP_048 080			Dihydropyrim dinase-like 2 (collapsin response mediator protein 1).		rc_AA875444 UI-R-E0-cp-a-08-O-U1.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cp-a-08-O-U1 /clone_end=3 /gb=AA875444 /gi=2980382 /ug=Rn.2889 /len=383

Table 2.

AA875444	5331	Q82950	5332	XM_048080	XP_048080				Dihydropyrimidinase-like 2 [collapsin response mediator protein 1].	rc_AA875444 UI-R-E0-ct-a-08-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ct-a-08-Q-UI /clone_end=3 /gb=AA875444 /ug=Rn.2889 /len=383
AA875495	5333	No Rat Protein Found.		BI495246	5334	No Human Protein Found.	97.06		EST (not recognized)	rc_AA875495 UI-R-E0-ct-b-04-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ct-b-04-Q-UI /clone_end=3 /gb=AA875495 /ug=Rn.1876 /len=495
AA875495	5335	No Rat Protein Found.		BI495246	5336	No Human Protein Found.	97.06		EST (not recognized)	rc_AA875495 UI-R-E0-ct-b-04-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ct-b-04-Q-UI /clone_end=3 /gb=AA875495 /ug=Rn.1876 /len=495
AA875496	5337	No Rat Protein Found.		AA521144	5338	No Human Protein Found.	89.42		Mus musculus 10 days neonate cerebellum cDNA, RIKEN	rc_AA875496 UI-R-E0-ct-b-05-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ct-b-05-Q-UI /clone_end=3 /gb=AA875496 /ug=Rn.2938 /len=456
AA875500	5339	No Rat Protein Found.		XM_047123	5340	XP_047123	5341		Homo sapiens KIAA1460 protein	rc_AA875500 UI-R-E0-ct-b-11-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ct-b-11-Q-UI /clone_end=3 /gb=AA875500 /ug=Rn.2857 /len=459
AA875506	5342	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		X82233	M.musculus gMCK2alphaC pseudogene	rc_AA875506 UI-R-E0-ct-c-05-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ct-c-05-Q-UI /clone_end=3 /gb=AA875506 /ug=Rn.22771 /len=513
AA875511	5343	No Rat Protein Found.		BF980184	5344	No Human Protein Found.	93.27		EST (not recognized)	rc_AA875511 UI-R-E0-ct-c-10-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ct-c-10-Q-UI /clone_end=3 /gb=AA875511 /ug=Rn.2940 /len=376

Table 2.

AA8755 52	5345	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			Mus musculus, clone MGC:7764 IMAGE:34989 02, mRNA, complete cds		rc_AA875552 UI-R-E0-cv-h-12-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cv-h-12-Q-UI /clone_end=3 /gb=AA875552 /gi=2880500 /ug=Rn.2955 /len=502
AA8755 63	5346	NP_033 063	5347	BI828212	5348	XP_054 015	89.91	NM_00903 7	Mus musculus reticulocalbin (Rcn)		rc_AA875563 UI-R-E0-cm-b-06-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cm-b-06-Q-UI /clone_end=3 /gb=AA875563 /gi=2880511 /ug=Rn.3275 /len=472
AA8755 98	5349	No Rat Protein Found.		U58088	5350	Q13617	96.72		Mus musculus adult male testis cDNA, RIKEN		rc_AA875598 UI-R-E0-cv-b-08-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cv-b-08-Q-UI /clone_end=3 /gb=AA875598 /gi=2880548 /ug=Rn.2970 /len=409
AA8756 15	5352	No Rat Protein Found.		U09215	5353	Q06265	86.56		Mus musculus 10 days embryo cDNA, RIKEN		rc_AA875615 UI-R-E0-cv-d-07-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cv-d-07-Q-UI /clone_end=3 /gb=AA875615 /gi=2880563 /ug=Rn.8562 /len=504
AA8756 30	5355	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			Mus musculus, clone IMAGE:37097 46,		rc_AA875630 UI-R-E0-ct-e-12-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ct-e- 12-Q-UI /clone_end=3 /gb=AA875630 /gi=2880578 /ug=Rn.2981 /len=396
AA8756 59	5356	NP_062 001	5357	NM_0327 27	5358	Q16352	71	NM_01912 8	Intermetxin, alpha (inexa),		rc_AA875659 UI-R-E0-ct-h-07-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ct-h- 07-Q-UI /clone_end=3 /gb=AA875659 /gi=2880607 /ug=Rn.10866 /len=424
AA8910 37	5360	R5RT3L	5361	U65581	5362	Q82801	91.3		ESTs, Moderately similar to 60S RIBOSOMAL PROTEIN L3 [R.norvegicus]		rc_AA891037 EST194840 Rattus norvegicus cDNA, 3 end /clone=RHEAO17 /clone_end=3 /gb=AA891037 /gi=3017916 /ug=Rn.16548 /len=401

Table 2.

AA8910 49	5364	NP_035 200	5365	NM_0123 94	5366	Q8UHV9	5367	91.46	Prefoldin 2 (Pfdn2)	NM_01107 0	rc_AA891049 EST194852 Rattus norvegicus cDNA, 3' end /clone=RHEAO35 /clone_end=3 /gb=AA891049 /gi=3017828 /ug=Rn.3423 /len=455
AA8910 49	5368	NP_035 200	5369	NM_0123 94	5370	Q8UHV8	5371	91.46	Prefoldin 2 (Pfdn2)	NM_01107 0	rc_AA891049 EST194852 Rattus norvegicus cDNA, 3' end /clone=RHEAO35 /clone_end=3 /gb=AA891049 /gi=3017828 /ug=Rn.3423 /len=455
AA8910 54	5372	No Rat Protein Found.		AW86954 1	5373	P11230	5374	93.91	Mouse 4.5S RNA gene		rc_AA891054 EST194857 Rattus norvegicus cDNA, 3' end /clone=RHEAO44 /clone_end=3 /gb=AA891054 /gi=3017933 /ug=Rn.4287 /len=458
AA8910 69	5375	NP_033 300	5376	XM_00484 2		XP_004 842		80	serine/arginine rich protein specific kinase 2	NM_00927 4	rc_AA891069 EST194872 Rattus norvegicus cDNA, 3' end /clone=RHEAO61 /clone_end=3 /gb=AA891069 /gi=3017948 /ug=Rn.19443 /len=397
AA8911 07	5377	AAK282 79	5378	AA287829	5379	NP_061 967	5380	90.41	Diphosphoino sitol polyphosphate phosphohydrol ase type II	AF253473	rc_AA891107 EST194910 Rattus norvegicus cDNA, 3' end /clone=RHEAP20 /clone_end=3 /gb=AA891107 /gi=3017986 /ug=Rn.11627 /len=348
AA8911 32	5381	Q62698	5382	AF035812	5383	O43237	5384	93.97	LIC-2 dynein light intermediate chain 53/55	NM_03102 6	rc_AA891132 EST194935 Rattus norvegicus cDNA, 3' end /clone=RHEAP54 /clone_end=3 /gb=AA891132 /gi=3018011 /ug=Rn.11100 /len=436
AA8911 61	5385	No Rat Protein Found.		AK001865	5386	No Human Protein Found.		88.24	EST (not recognized)		rc_AA891161 EST194964 Rattus norvegicus cDNA, 3' end /clone=RHEAP94 /clone_end=3 /gb=AA891161 /gi=3018040 /ug=Rn.7257 /len=448
AA8911 61	5387	No Rat Protein Found.		AK001865	5388	No Human Protein Found.		88.24	EST (not recognized)		rc_AA891161 EST194964 Rattus norvegicus cDNA, 3' end /clone=RHEAP94 /clone_end=3 /gb=AA891161 /gi=3018040 /ug=Rn.7257 /len=448

"Dynein light  
intermediate  
chain 2,  
cytosolic  
(LIC53/55) (LIC-  
2)."

Table 2.

AA8911 71	5389	AAH02 097	5390	BG723280	5391	O95298	5392	87.27	Mus musculus, Similar to NADH dehydrogenas e (ubiquinone) 1	BC002097	rc_AA891171 EST184974 Rattus norvegicus cDNA, 3' end /clone=RHEAQ10 /clone_end=3 /gb=AA891171 /gi=3018050 /ug=Rn.3009 /len=592
AA8912 20	5393	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA891220 EST195023 Rattus norvegicus cDNA, 3' end /clone=RHEAQ68 /clone_end=3 /gb=AA891220 /gi=3018099 /ug=Rn.7264 /len=635
AA8912 21	5394	NP_080 580	5395	AK001447	5396	XP_051 185	5397	96.49	Hypothetical protein		rc_AA891221 EST185024 Rattus norvegicus cDNA, 3' end /clone=RHEAQ70 /clone_end=3 /gb=AA891221 /gi=3018100 /ug=Rn.1978 /len=627
AA8912 86	5398	AAD43 039	5399	AJ001050	5400	Q16881	5401	82	NADPH- dependent thioredoxin reductase	AF108213	rc_AA891286 EST195089 Rattus norvegicus cDNA, 3' end /clone=RHEAR95 /clone_end=3 /gb=AA891286 /gi=3018165 /ug=Rn.9474 /len=438
AA8913 08	5402	NP_032 403	5403	AL117666	5404	BC0142 76	5405	96.8	Integral membrane glycoprotein	NM_00837 7	rc_AA891308 EST195111 Rattus norvegicus cDNA, 3' end /clone=RHEAS28 /clone_end=3 /gb=AA891308 /gi=3018187 /ug=Rn.16305 /len=465
AA8913 14	5406	No Rat Protein Found.		AF176330	5407	P57723	5408		alphaCP-4 (PCBP4)		rc_AA891314 EST195117 Rattus norvegicus cDNA, 3' end /clone=RHEAS38 /clone_end=3 /gb=AA891314 /gi=3018183 /ug=Rn.2683 /len=442
AA8913 22	5409	AAH02 169	5410	X06815	5411	Q8UE46	5412	94.23	Rat EST (mouse hypothetical protein)		rc_AA891322 EST195125 Rattus norvegicus cDNA, 3' end /clone=RHEAS47 /clone_end=3 /gb=AA891322 /gi=3018201 /ug=Rn.7278 /len=438

Table 2.

AA8913 22	5413	No Rat Protein Found.	X06815	5414	Q8UE46	5415	94.23	M.musculus DNA for U1- RNA- associated 70 kDa protein (H).	X17453	rc_AA891322 EST195125 Rattus norvegicus cDNA, 3' end /clone=RHEAS47 /clone_end=3 /gb=AA891322 /gi=3018201 /ug=Rn.7278 /len=438
AA8913 22	5416	AAH02 169	X06815	5418	Q8UE46	5419	94.23	Rat EST (mouse hypothetical protein)		rc_AA891322 EST195125 Rattus norvegicus cDNA, 3' end /clone=RHEAS47 /clone_end=3 /gb=AA891322 /gi=3018201 /ug=Rn.7278 /len=438
AA8913 22	5420	No Rat Protein Found.	X06815	5421	Q8UE46	5422	94.23	M.musculus DNA for U1- RNA- associated 70 kDa protein (H).	X17453	rc_AA891322 EST195125 Rattus norvegicus cDNA, 3' end /clone=RHEAS47 /clone_end=3 /gb=AA891322 /gi=3018201 /ug=Rn.7278 /len=438
AA8914 23	5423	BAB265 98	BC007220	5425	AAH072 20	5426		Hypothetical protein FLJ12118		rc_AA891423 EST195226 Rattus norvegicus cDNA, 3' end /clone=RHEAT94 /clone_end=3 /gb=AA891423 /gi=3018302 /ug=Rn.8868 /len=484
AA8914 45	5427	NP_075 236	AL136909	5429	XP_035 165	5430	88.8	suppressor of K+ transport defect 3 (Skd3),	NM_02294 7	rc_AA891445 EST195248 Rattus norvegicus cDNA, 3' end /clone=RHEAU35 /clone_end=3 /gb=AA891445 /gi=3018324 /ug=Rn.2911 /len=481
AJ4008 47	5431	CAC19 332	No human homolog found.		No Human Protein Found.			EST weakly similar to Mus musculus mRNA for immunoglobulin n-like cell surface receptor FDFACT, activating counterpart	AA891475	rc_AA891475 EST195278 Rattus norvegicus cDNA, 3' end /clone=RHEAU83 /clone_end=3 /gb=AA891475 /gi=3018354 /ug=Rn.3456 /len=508



Table 2.

AA8914 99	5433	No Rat Protein Found.	AC008462	5434	No Human Protein Found.				Homo sapiens chromosome 5 clone CTC- 352J10, complete sequence	rc_AA891499 EST195302 Rattus norvegicus cDNA, 3' end /clone=RHEAZ20 /clone_end=3 /gb=AA891499 /gi=3018378 /ug=Rn.8534 /len=460
AA8915 21	5435	No Rat Protein Found.	AY027526	5436	No Human Protein Found.	5437	83.72	EST (not recognized)		rc_AA891521 EST195324 Rattus norvegicus cDNA, 3' end /clone=RHEAZ48 /clone_end=3 /gb=AA891521 /gi=3018400 /ug=Rn.7299 /len=470
AA8915 21	5438	No Rat Protein Found.	AY027526	5439	No Human Protein Found.	5440	83.72	EST (not recognized)		rc_AA891521 EST195324 Rattus norvegicus cDNA, 3' end /clone=RHEAZ48 /clone_end=3 /gb=AA891521 /gi=3018400 /ug=Rn.7299 /len=470
AA8915 37	5441	BAB238 85	U79274	5443	XP_007 018	5444	89.72	Rat EST (mouse and human hypothetical protein)		rc_AA891537 EST195340 Rattus norvegicus cDNA, 3' end /clone=RHEAZ66 /clone_end=3 /gb=AA891537 /gi=3018416 /ug=Rn.7302 /len=549
AA8915 42	5445	AAC64 141	AK023253	5447	O75953	5448	96.23	Mus musculus heat shock protein hsp40- 3 gene	AF092536	rc_AA891542 EST195345 Rattus norvegicus cDNA, 3' end /clone=RHEAZ72 /clone_end=3 /gb=AA891542 /gi=3018421 /ug=Rn.4189 /len=598
AA8915 53	5449	NP_061 219	BE122841	5451	P28034	5452	96.36	ESTs, Highly similar to IF37 9 MOUSE EUKARYOTIC TRANSLATIO N INITIATION FACTOR 3 SUBUNIT 7 [M.musculus]	NM_01874 9	rc_AA891553 EST195356 Rattus norvegicus cDNA, 3' end /clone=RHEAZ86 /clone_end=3 /gb=AA891553 /gi=3018432 /ug=Rn.3463 /len=614

Table 2.

AA8915 53	5453	NP_081 219	5454	BE122841	5455	P28034	5456	96.36	ESTs, Highly similar to IF37 9 MOUSE EUKARYOTIC TRANSLATIO N INITIATION FACTOR 3 SUBUNIT 7 [M.musculus]	NM_018741	rc_AA891553 EST195356 Rattus norvegicus cDNA, 3' end /clone=RHEAZ86 /clone_end=3 /gb=AA891553 /gi=3018432 /ug=Rn.3453 /len=814
AA8915 78	5457	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA891578 EST195381 Rattus norvegicus cDNA, 3' end /clone=RKIAE19 /clone_end=3 /gb=AA891578 /gi=3018457 /ug=Rn.19937 /len=410
AA8915 95	5458	No Rat Protein Found.		XM_03837 7	5459	XP_038 377	5460		Rho- associated, coiled-coil containing protein kinase 2		rc_AA891595 EST195398 Rattus norvegicus cDNA, 3' end /clone=RKIAE40 /clone_end=3 /gb=AA891595 /gi=3018474 /ug=Rn.22699 /len=471
AA8915 95	5461	NP_112 360	5462	XM_03837 7	5463	XP_038 377	5464	59	Rho- associated, coiled-coil containing protein kinase 2	NM_03109 8	rc_AA891595 EST195398 Rattus norvegicus cDNA, 3' end /clone=RKIAE40 /clone_end=3 /gb=AA891595 /gi=3018474 /ug=Rn.22699 /len=471
AA8916 31	5465	No Rat Protein Found.		AB032989	5466	No Human Protein Found.		89.22	EST (not recognized)		rc_AA891631 EST185434 Rattus norvegicus cDNA, 3' end /clone=RKIAE84 /clone_end=3 /gb=AA891631 /gi=3018510 /ug=Rn.14698 /len=327
AA8916 31	5467	No Rat Protein Found.		AB032989	5468	No Human Protein Found.		89.22	EST (not recognized)		rc_AA891631 EST185434 Rattus norvegicus cDNA, 3' end /clone=RKIAE84 /clone_end=3 /gb=AA891631 /gi=3018510 /ug=Rn.14698 /len=327
AA8916 34	5469	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA891634 EST185437 Rattus norvegicus cDNA, 3' end /clone=RKIAE87 /clone_end=3 /gb=AA891634 /gi=3018513 /ug=Rn.14700 /len=384

Table 2.

AA8916 51	5470	No Rat Protein Found.	NM_0050 03	5471	O14561	5472	95.09	EST (not recognized)	NM_00859 5	rc_AA891651 EST195454 Rattus norvegicus cDNA, 3' end /clone=RKJAF13 /clone_end=3 /gb=AA891651 /gi=3018530 /ug=Rn.1318 /len=499		
AA8916 64	5473	NP_032 621	5474 Z93096	5475	CAB075 11	5476	83	manic fringe homolog (Drosophila) (Mfng),	rc_AA891664 EST195467 Rattus norvegicus cDNA, 3' end /clone=RKJAF27 /clone_end=3 /gb=AA891664 /gi=3018543 /ug=Rn.22700 /len=518			
AA8916 68	5477	Q8ES7 3	5478 AK074092	5479	Q8Y5V3	5480	93.09	Similar to EAP30 subunit of ELL complex	BC003938	rc_AA891666 EST195469 Rattus norvegicus cDNA, 3' end /clone=RKJAF29 /clone_end=3 /gb=AA891666 /gi=3018545 /ug=Rn.8501 /len=381	Cytoplasmic. Expression shifts from the cytoplasm to the plasma membrane upon stimulation with NGF.	Melanoma- associated antigen D1 (MAGE-D1 antigen) (Neurotrophinre ceptor- interacting MAGE homolog) (Sertoli cell necdinrelated gene-1) (SNERG-1).
AA8916 66	5481	Q8ES7 3	5482 AK074092	5483	Q8Y5V3	5484	93.09	Similar to EAP30 subunit of ELL complex	BC003938	rc_AA891666 EST195469 Rattus norvegicus cDNA, 3' end /clone=RKJAF29 /clone_end=3 /gb=AA891666 /gi=3018545 /ug=Rn.8501 /len=381	Cytoplasmic. Expression shifts from the cytoplasm to the plasma membrane upon stimulation with NGF.	Melanoma- associated antigen D1 (MAGE-D1 antigen) (Neurotrophinre ceptor- interacting MAGE homolog) (Sertoli cell necdinrelated gene-1) (SNERG-1).
AA8916 77	5485	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST (not recognized)	rc_AA891677 EST195480 Rattus norvegicus cDNA, 3' end /clone=RKJAF42 /clone_end=3 /gb=AA891677 /gi=3018556 /ug=Rn.22242 /len=482			

Table 2.

AA8916 89	5486	No Rat Protein Found.	BM71493 8	5487	AAF289 40	5488	100	HSPC262	rc_AA891689 EST195492 Rattus norvegicus cDNA, 3' end /clone=RKIAF57 /clone_end=3 /gb=AA891689 /gi=3018568 /ug=Rn.14704 /len=421
AA8916 94	5489	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST(not recognised)	rc_AA891694 EST195497 Rattus norvegicus cDNA, 3' end /clone=RKIAF62 /clone_end=3 /gb=AA891694 /gi=3018573 /ug=Rn.3960 /len=493
AA8917 00	5490	No Rat Protein Found.	U19252	5491	P48553	5492	93.04	EST (moderately similar to human transmembran e protein)	rc_AA891700 EST195503 Rattus norvegicus cDNA, 3' end /clone=RKIAF69 /clone_end=3 /gb=AA891700 /gi=3018579 /ug=Rn.14706 /len=470
AA8917 00	5493	No Rat Protein Found.	U19252	5494	P48553	5495	93.04	EST (moderately similar to human transmembran e protein)	rc_AA891700 EST195503 Rattus norvegicus cDNA, 3' end /clone=RKIAF69 /clone_end=3 /gb=AA891700 /gi=3018579 /ug=Rn.14706 /len=470
AA8917 24	5498	No Rat Protein Found.	XM_04886 3	5497	XP_048 863	5498	89	KJAA00899 protein	rc_AA891724 EST195527 Rattus norvegicus cDNA, 3' end /clone=RKJAG01 /clone_end=3 /gb=AA891724 /gi=3018603 /ug=Rn.17091 /len=523
AA8917 25	5499	No Rat Protein Found.	BC014953	5500	No Human Protein Found.	5501	88.08	Mus musculus 13 days embryo head cDNA, RIKEN	rc_AA891725 EST195528 Rattus norvegicus cDNA, 3' end /clone=RKJAG02 /clone_end=3 /gb=AA891725 /gi=3018604 /ug=Rn.22702 /len=625
AA8917 27	5502	No Rat Protein Found.	BC006007	5503	XP_042 840	5504	95.11	EST (hypothetical protein)	rc_AA891727 EST195530 Rattus norvegicus cDNA, 3' end /clone=RKJAG04 /clone_end=3 /gb=AA891727 /gi=3018608 /ug=Rn.3418 /len=418
AA8917 33	5505	No Rat Protein Found.	AF009424	5506	O16165	5507	89.44	EST(not recognised)	rc_AA891733 EST195536 Rattus norvegicus cDNA, 3' end /clone=RKJAG10 /clone_end=3 /gb=AA891733 /gi=3018612 /ug=Rn.8288 /len=664
AA8917 34	5508	No Rat Protein Found.	AK001539	5509	No Human Protein Found.		89.52	EST(not recognised)	rc_AA891734 EST195537 Rattus norvegicus cDNA, 3' end /clone=RKJAG13 /clone_end=3 /gb=AA891734 /gi=3018613 /ug=Rn.3481 /len=616

Table 2.

AA8917 35	5510	No Rat Protein Found.	5514	No human homolog found.	5515	No Human Protein Found.	5516	86.68	EST (not recognized)		rc_AA891735 EST195538 Rattus norvegicus cDNA, 3' end /clone=RKIAG14 /clone_end=3 /gb=AA891735 /gi=3018614 /ug=Rn.22703 /len=516		
AA8917 37	5511	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA891737 EST195540 Rattus norvegicus cDNA, 3' end /clone=RKIAG17 /clone_end=3 /gb=AA891737 /gi=3018616 /ug=Rn.3650 /len=558		
AA8917 37	5512	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA891737 EST195540 Rattus norvegicus cDNA, 3' end /clone=RKIAG17 /clone_end=3 /gb=AA891737 /gi=3018616 /ug=Rn.3650 /len=558		
AA8917 38	5513	Q07116	5514	L31573	5515	P51687	5516	86.68	Sulfite oxidase		rc_AA891738 EST195541 Rattus norvegicus cDNA, 3' end /clone=RKIAG18 /clone_end=3 /gb=AA891738 /gi=3018617 /ug=Rn.11107 /len=593	Mitochondrial intermembrane space.	"Sulfite oxidase, mitochondrial precursor (EC 1.8.3.1)." "
AA8917 40	5517	NP_057 924	5518	No human homolog found.		No Human Protein Found.			Mus musculus thymic stromal derived lymphopoietin, receptor (LOW HOMOLOGY)	NM_016715	rc_AA891740 EST195543 Rattus norvegicus cDNA, 3' end /clone=RKIAG20 /clone_end=3 /gb=AA891740 /gi=3018619 /ug=Rn.22704 /len=511		
AA8917 46	5519	NP_087 494	5520	AB002283	5521	XP_011 773	5522	90	Endothelial differentiation- related factor 1	NM_021519	rc_AA891746 EST195549 Rattus norvegicus cDNA, 3' end /clone=RKIAG28 /clone_end=3 /gb=AA891746 /gi=3018625 /ug=Rn.17092 /len=540		
AA8917 51	5523	NP_037 251	5524	XM_008249	5525	XP_008 249	5526	64	Rattus norvegicus Sodium channel, voltage-gated, type III, alpha polypeptide (Scn3a)	NM_013119	rc_AA891751 EST195554 Rattus norvegicus cDNA, 3' end /clone=RKIAG34 /clone_end=3 /gb=AA891751 /gi=3018630 /ug=Rn.11108 /len=569		

Table 2.

AA8917 60	5527	No Rat Protein Found.	XM_01518 5	XP_015 185	5533	92.92	EST (not recognized for rat) - hypothetical protein for human	AF212319	rc_AA891760 EST195563 Rattus norvegicus cDNA, 3' end /clone=RK1AG45 /clone_end=3 /gb=AA891760 /gi=3018639 /ug=Rn.2343 /len=591
AA8917 60	5528	No Rat Protein Found.	XM_01518 5	XP_015 185			EST (not recognized for rat)		rc_AA891760 EST195563 Rattus norvegicus cDNA, 3' end /clone=RK1AG45 /clone_end=3 /gb=AA891760 /gi=3018639 /ug=Rn.2343 /len=591
AA8917 74	5528	No Rat Protein Found.	No human homolog found.	No Human Protein Found.			Mus musculus 10 day old male pancreas cDNA, RIKEN		rc_AA891774 EST195577 Rattus norvegicus cDNA, 3' end /clone=RK1AG61 /clone_end=3 /gb=AA891774 /gi=3018663 /ug=Rn.2080 /len=555
AA8917 85	5530	AAG43 538	U52144	P48735	5533	92.92	Mus musculus NADP+- specific isocitrate dehydrogenas e	AF212319	rc_AA891785 EST195588 Rattus norvegicus cDNA, 3' end /clone=RK1AG74 /clone_end=3 /gb=AA891785 /gi=3018664 /ug=Rn.3490 /len=518
AA8917 85	5534	AAG43 538	U52144	P48735	5537	92.92	Mus musculus NADP+- specific isocitrate dehydrogenas e	AF212319	rc_AA891785 EST195588 Rattus norvegicus cDNA, 3' end /clone=RK1AG74 /clone_end=3 /gb=AA891785 /gi=3018664 /ug=Rn.3490 /len=518
AA8917 96	5538	No Rat Protein Found.	AL137721	No Human Protein Found.	5540	93.81	Mus musculus ES cells cDNA, RIKEN		rc_AA891796 EST195599 Rattus norvegicus cDNA, 3' end /clone=RK1AG90 /clone_end=3 /gb=AA891796 /gi=3018675 /ug=Rn.1327 /len=571
AA8918 00	5541	AAH11 417	AF217187	AAG367 81	5544	85	Similar to pyrophosphat ase (inorganic)	BC011417	rc_AA891800 EST195603 Rattus norvegicus cDNA, 3' end /clone=RK1AG95 /clone_end=3 /gb=AA891800 /gi=3018679 /ug=Rn.22707 /len=620
AA8918 00	5545	AAH11 417	AF217187	AAG367 81	5548	85	Similar to pyrophosphat ase (inorganic)	BC011417	rc_AA891800 EST195603 Rattus norvegicus cDNA, 3' end /clone=RK1AG95 /clone_end=3 /gb=AA891800 /gi=3018679 /ug=Rn.22707 /len=620

Table 2.

AA8918 02	5549	No Rat Protein Found.	5551	AF155650	5552	NP_060 904	5553	98.35	EST(not recognised)	g1-related zinc finger protein [Mus musculus]	NM_02154 0	rc_AA891802 EST195605 Rattus norvegicus cDNA, 3' end /clone=RKJAH01 /clone_end=3 /gb=AA891802 /gi=3018681 /ug=Rn.8316 /len=648
AA8918 10	5550	NP_067 515	5555	AF155650	5556	NP_060 904	5557	98.35	EST(not recognised)	g1-related zinc finger protein [Mus musculus]	NM_02154 0	rc_AA891810 EST195613 Rattus norvegicus cDNA, 3' end /clone=RKJAH13 /clone_end=3 /gb=AA891810 /gi=3018689 /ug=Rn.17620 /len=551
AA8918 10	5554	NP_067 515	5559	AF155650	5560	NP_060 904	5561	98.35	EST(not recognised)	g1-related zinc finger protein [Mus musculus]	NM_02154 0	rc_AA891810 EST195613 Rattus norvegicus cDNA, 3' end /clone=RKJAH13 /clone_end=3 /gb=AA891810 /gi=3018689 /ug=Rn.17620 /len=551
AA8918 10	5558	NP_067 515	5563	AF155650	5564	NP_060 904	5565	98.35	EST(not recognised)	g1-related zinc finger protein [Mus musculus]	NM_02154 0	rc_AA891810 EST195613 Rattus norvegicus cDNA, 3' end /clone=RKJAH13 /clone_end=3 /gb=AA891810 /gi=3018689 /ug=Rn.17620 /len=551
AA8918 12	5568	S54147	5567	X58141	5567	S18207	5568	94	ESTs, Highly similar to S54147 alpha adducin - rat [R.norvegicus]	ESTs, Highly similar to S54147 alpha adducin - rat [R.norvegicus]		rc_AA891812 EST195615 Rattus norvegicus cDNA, 3' end /clone=RKJAH16 /clone_end=3 /gb=AA891812 /gi=3018691 /ug=Rn.1885 /len=620
AA8918 12	5569	S54147	5570	X58141	5570	S18207	5571	94	ESTs, Highly similar to S54147 alpha adducin - rat [R.norvegicus]	ESTs, Highly similar to S54147 alpha adducin - rat [R.norvegicus]		rc_AA891812 EST195615 Rattus norvegicus cDNA, 3' end /clone=RKJAH16 /clone_end=3 /gb=AA891812 /gi=3018691 /ug=Rn.1885 /len=620
AA8918 12	5572	S54147	5573	X58141	5573	S18207	5574	94	ESTs, Highly similar to S54147 alpha adducin - rat [R.norvegicus]	ESTs, Highly similar to S54147 alpha adducin - rat [R.norvegicus]		rc_AA891812 EST195615 Rattus norvegicus cDNA, 3' end /clone=RKJAH16 /clone_end=3 /gb=AA891812 /gi=3018691 /ug=Rn.1885 /len=620

Table 2.

AA8918 12	5575	S54147	X58141	5576	S18207	5577	94	ESTs, Highly similar to S54147 alpha adducin - rat [R.norvegicus]		rc_AA891812 EST185615 Rattus norvegicus cDNA, 3' end /clone=RKJAH16 /clone_end=3 /gb=AA891812 /gb=3018691 /ug=Rn.1885 /len=620	Collagen alpha 2(I) chain precursor.
AA8918 28	5578	P02466	5579	D21235	5580	P54725	95.37	Homo sapient, Similar to RAD23		rc_AA891828 EST186631 Rattus norvegicus cDNA, 3' end /clone=RKJAH33 /clone_end=3 /gb=AA891828 /gb=3018707 /ug=Rn.6963 /len=546	Collagen alpha 2(I) chain precursor.
AA8918 28	5582	P02466	5583	D21235	5584	P54725	95.37	Procollagen, type I, alpha 2	AF121217	rc_AA891828 EST186631 Rattus norvegicus cDNA, 3' end /clone=RKJAH33 /clone_end=3 /gb=AA891828 /gb=3018707 /ug=Rn.6963 /len=546	Collagen alpha 2(I) chain precursor.
AA8918 29	5586	P22288	5587	U63810	5588	O76071	92.83	Mus musculus WD40 protein Clao1 (Clao1- pending)	NM_02529 6	rc_AA891829 EST186632 Rattus norvegicus cDNA, 3' end /clone=RKJAH34 /clone_end=3 /gb=AA891829 /gb=3018708 /ug=Rn.3498 /len=667	GTP cyclohydrolase I precursor (EC 3.5.4.16) (GTP- CH-I).
AA8918 29	5590	P22288	5591	U63810	5592	O76071	92.83	Mus musculus WD40 protein Clao1 (Clao1- pending)	NM_02529 6	rc_AA891829 EST186632 Rattus norvegicus cDNA, 3' end /clone=RKJAH34 /clone_end=3 /gb=AA891829 /gb=3018708 /ug=Rn.3498 /len=667	GTP cyclohydrolase I precursor (EC 3.5.4.16) (GTP- CH-I).
AA8918 29	5594	P22288	5595	U63810	5596	O76071	92.83	Mus musculus WD40 protein Clao1 (Clao1- pending)	NM_02529 6	rc_AA891829 EST186632 Rattus norvegicus cDNA, 3' end /clone=RKJAH34 /clone_end=3 /gb=AA891829 /gb=3018708 /ug=Rn.3498 /len=667	GTP cyclohydrolase I precursor (EC 3.5.4.16) (GTP- CH-I).



Table 2.

AA8918 29	5598	P22288	5599	U63810	5600	O76071	5601	92.83	Mus musculus WD40 protein Ciao1 (Ciao1- pending)	NM_02529 6	rc_AA891829 EST185632 Rattus norvegicus cDNA, 3 end /clone=RKIAH34 /clone_end=3 /gb=AA891829 /gi=3018708 /ug=Rn.3498 /len=667	GTP cyclohydrolase I precursor (EC 3.5.4.16) (GTP- CH-I).
AA8918 29	5602	P22288	5603	U63810	5604	O76071	5605	92.83	Mus musculus WD40 protein Ciao1 (Ciao1- pending)	NM_02529 6	rc_AA891829 EST185632 Rattus norvegicus cDNA, 3 end /clone=RKIAH34 /clone_end=3 /gb=AA891829 /gi=3018708 /ug=Rn.3498 /len=667	GTP cyclohydrolase I precursor (EC 3.5.4.16) (GTP- CH-I).
AA8918 29	5606	P22288	5607	U63810	5608	O76071	5609	92.83	Mus musculus WD40 protein Ciao1 (Ciao1- pending)	NM_02529 6	rc_AA891829 EST185632 Rattus norvegicus cDNA, 3 end /clone=RKIAH34 /clone_end=3 /gb=AA891829 /gi=3018708 /ug=Rn.3498 /len=667	GTP cyclohydrolase I precursor (EC 3.5.4.16) (GTP- CH-I).
AA8918 42	5610	No Rat Protein Found.		BC005192	5611	AAF642 74	5612	89.52	BM-018		rc_AA891842 EST185645 Rattus norvegicus cDNA, 3 end /clone=RKIAH53 /clone_end=3 /gb=AA891842 /gi=3018721 /ug=Rn.14714 /len=591	
AA8918 42	5613	No Rat Protein Found.		BC005192	5614	AAF642 74	5615	89.52	BM-018		rc_AA891842 EST185645 Rattus norvegicus cDNA, 3 end /clone=RKIAH53 /clone_end=3 /gb=AA891842 /gi=3018721 /ug=Rn.14714 /len=591	
AA8918 48	5616	P04762	5617	X04076	5618	P04040	5619	86.48	Mus musculus, Similar to solute carrier family 35 (CMP-sialic acid		rc_AA891848 EST185651 Rattus norvegicus cDNA, 3 end /clone=RKIAH61 /clone_end=3 /gb=AA891848 /gi=3018727 /ug=Rn.8127 /len=617	Catalase (EC 1.11.1.6).
AA8918 57	5620	Q9R1B 1	5621	AJ005112	5622	NP_036 324	5623	96.34	Rattus norvegicus small zinc finger-like protein (TIM9b)	AF150106	rc_AA891857 EST185660 Rattus norvegicus cDNA, 3 end /clone=RKIAH77 /clone_end=3 /gb=AA891857 /gi=3018736 /ug=Rn.13451 /len=501	Mitochondrial import inner membrane translocase subunit TIM9 B(Fracture calyx protein 1) (FXC1).

Table 2.

AA8918 59	5624	No Rat Protein Found.	AA781413	5625	No Human Protein Found.	84.62	EST (not recognized)	rc_AA891859 EST195662 Rattus norvegicus cDNA, 3' end /clone=RKJAH79 /clone_end=3 /gb=AA891859 /gi=3018738 /ug=Rn.3920 /len=570	
AA8918 64	5626	AAG37 102	5627	5628	XP_043 746	82	nuclear ATP/GTP- binding protein (Nha1)	rc_AA891884 EST195667 Rattus norvegicus cDNA, 3' end /clone=RKJAH84 /clone_end=3 /gb=AA891884 /gi=3018743 /ug=Rn.19939 /len=608	AF219141
AA8918 72	5630	Q61941	5631	5632	Q13423	86.73	ESTs, Highly similar to NNTM MOUSE NAD(P) TRANSYDR OGENASE, MITOCHOND RIAL PRECURSOR [M.musculus]	rc_AA891872 EST195675 Rattus norvegicus cDNA, 3' end /clone=RKJAH93 /clone_end=3 /gb=AA891872 /gi=3018751 /ug=Rn.3128 /len=614	Z49204
AA8918 77	5634	No Rat Protein Found.		5635	Q13772	89.19	Mus musculus 18 days embryo cDNA, RIKEN	rc_AA891877 EST195680 Rattus norvegicus cDNA, 3' end /clone=RKJAH04 /clone_end=3 /gb=AA891877 /gi=3018756 /ug=Rn.7633 /len=548	
AA8918 80	5637	Q8JHY 2	5638	5639	Q9BWM 7	87.64	Tricarboxylate carrier-like protein	rc_AA891880 EST195683 Rattus norvegicus cDNA, 3' end /clone=RKJAH08 /clone_end=3 /gb=AA891880 /gi=3018759 /ug=Rn.1082 /len=452	NM_02294 8
AA8918 80	5641	Q8JHY 2	5642	5643	Q9BWM 7	87.64	Tricarboxylate carrier-like protein	rc_AA891880 EST195683 Rattus norvegicus cDNA, 3' end /clone=RKJAH08 /clone_end=3 /gb=AA891880 /gi=3018759 /ug=Rn.1082 /len=452	NM_02294 8
AA8918 91	5645	No Rat Protein Found.			XP_029 081		Topoisomeras e-related function protein 4-1	rc_AA891891 EST195694 Rattus norvegicus cDNA, 3' end /clone=RKJAH20 /clone_end=3 /gb=AA891891 /gi=3018770 /ug=Rn.22710 /len=497	
AA8918 11	5646	Q63532	5647	5648	g685073	85.85	Small proline- rich protein gene	rc_AA891911 EST195714 Rattus norvegicus cDNA, 3' end /clone=RKJAH48 /clone_end=3 /gb=AA891911 /gi=3018790 /ug=Rn.14720 /len=383	

Table 2.

AA8919 14	5649	No Rat Protein Found.	D16307	5650	Q03154	5651	87.27	aminoacylase 1	BC005419	rc_AA891914 EST195717 Rattus norvegicus cDNA, 3' end /clone=RKIA152 /clone_end=3 /gb=AA891914 /gi=3018793 /ug=Rn.3678 /len=578	
AA8919 43	5652	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA891943 EST195748 Rattus norvegicus cDNA, 3' end /clone=RKIA186 /clone_end=3 /gb=AA891943 /gi=3018822 /ug=Rn.3564 /len=550	
AA8919 44	5653	AAH05 419	5654		No Human Protein Found.			Mus musculus, Similar to Interferon- $\gamma$ Induced GTPase		rc_AA891944 EST195747 Rattus norvegicus cDNA, 3' end /clone=RKIA187 /clone_end=3 /gb=AA891944 /gi=3018823 /ug=Rn.8128 /len=605	
AA8919 50	5655	No Rat Protein Found.	BI870835	5656	No Human Protein Found.		87.4	Mus musculus adult male stomach cDNA, RIKEN		rc_AA891950 EST195753 Rattus norvegicus cDNA, 3' end /clone=RKIA193 /clone_end=3 /gb=AA891950 /gi=3018829 /ug=Rn.2072 /len=542	
AA8919 69	5657	AAH05 436	5658	5659	NP_006 324	5660	89.35	Mus musculus, nuclear DNA- binding protein, clone MGC:5983	BC005438	rc_AA891989 EST195772 Rattus norvegicus cDNA, 3' end /clone=RKIAK18 /clone_end=3 /gb=AA891989 /gi=3018848 /ug=Rn.14725 /len=343	
AA8919 78	5661	No Rat Protein Found.	AK000494	5662	No Human Protein Found.	5663	90.09	EST (not recognized)		rc_AA891978 EST195781 Rattus norvegicus cDNA, 3' end /clone=RKIAK27 /clone_end=3 /gb=AA891978 /gi=3018857 /ug=Rn.3529 /len=305	
AA8920 12	5664	P00507	5665	5666	P00505	5667	94	Glutamate oxaloacetate transaminase 2, mitochondrial (aspartate amino transfer ase 2)		rc_AA892012 EST195815 Rattus norvegicus cDNA, 3' end /clone=RKIAK68 /clone_end=3 /gb=AA892012 /gi=3018891 /ug=Rn.3628 /len=363	Mitochondrial matrix "Aspartate amino transferase, mitochondrial precursor (EC 2.6.1.1) (Transa- minase A) (Glutamate oxaloacetate transaminase- 2)."

Table 2.

AA8920 12	5668	P00507	5669	M22832	5670	P00505	5671	94	Glutamate oxaloacetate transaminase 2, mitochondrial (aspartate aminotransfer- ase 2)	rc_AA892049 EST195815 Rattus norvegicus cDNA, 3' end /clone=RKJAK66 /clone_end=3 /gb=AA892012 /gi=3018891 /ug=Rn.3628 /len=363	Mitochondrial matrix	"Aspartate aminotransferas- e, mitochondrial precursor (EC 2.6.1.1)(Transa- minase A) (Glutamate oxaloacetate transaminase- 2)."
AA8920 49	5672	No Rat Protein Found.		No human homolog found.	No	Human Protein Found.		EST (not recognized)		rc_AA892049 EST195852 Rattus norvegicus cDNA, 3' end /clone=RKJAL20 /clone_end=3 /gb=AA892049 /gi=3018928 /ug=Rn.15656 /len=531		
AA8920 94	5673	No Rat Protein Found.		No human homolog found.	No	Human Protein Found.		EST (not recognized)		rc_AA892094 EST195897 Rattus norvegicus cDNA, 3' end /clone=RKJAM28 /clone_end=3 /gb=AA892094 /gi=3018973 /ug=Rn.18972 /len=404		
AA8920 94	5674	No Rat Protein Found.		No human homolog found.	No	Human Protein Found.		EST (not recognized)		rc_AA892094 EST195897 Rattus norvegicus cDNA, 3' end /clone=RKJAM28 /clone_end=3 /gb=AA892094 /gi=3018973 /ug=Rn.18972 /len=404		
AA8921 20	5675	No Rat Protein Found.		No human homolog found.	No	Human Protein Found.		EST (not recognized)		rc_AA892120 EST195923 Rattus norvegicus cDNA, 3' end /clone=RKJAM60 /clone_end=3 /gb=AA892120 /gi=3018989 /ug=Rn.9122 /len=476		
AA8921 27	5676	No Rat Protein Found.		No human homolog found.	No	Human Protein Found.		Human DNA sequence from clone RP3-41217 on chromosome		rc_AA892127 EST195930 Rattus norvegicus cDNA, 3' end /clone=RKJAM68 /clone_end=3 /gb=AA892127 /gi=3018908 /ug=Rn.3372 /len=528		
AA8921 37	5677	No Rat Protein Found.		AL109701	5678	No	Human Protein Found.	86.52	Mus musculus adult male kidney cDNA, RIKEN	rc_AA892137 EST195940 Rattus norvegicus cDNA, 3' end /clone=RKJAM79 /clone_end=3 /gb=AA892137 /gi=3019016 /ug=Rn.22737 /len=442		

Table 2.

AA8921 49	5680	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognised)	rc_AA892149 EST195952 Rattus norvegicus cDNA, 3' end /clone=RKIA193 /clone_end=3 /gb=AA892149 /gi=3019028 /ug=Rn.22240 /len=486
AA8921 54	5681	NP_037 292	5682	5683	5684	Mad4 homolog (human)	rc_AA892154 EST195957 Rattus norvegicus cDNA, 3' end /clone=RKIAN02 /clone_end=3 /gb=AA892154 /gi=3019033 /ug=Rn.3279 /len=386
AA8921 54	5685	NP_037 292	5686	5687	5688	Mad4 homolog (human)	rc_AA892154 EST195957 Rattus norvegicus cDNA, 3' end /clone=RKIAN02 /clone_end=3 /gb=AA892154 /gi=3019033 /ug=Rn.3279 /len=386
AA8921 79	5689	No Rat Protein Found.	AL050289	5690	5691	Similar to chromosome 6 open reading frame 5	rc_AA892179 EST195982 Rattus norvegicus cDNA, 3' end /clone=RKIAN31 /clone_end=3 /gb=AA892179 /gi=3019058 /ug=Rn.9031 /len=428
AA8922 48	5692	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		Rattus norvegicus mitochondrial genome	rc_AA892248 EST196051 Rattus norvegicus cDNA, 3' end /clone=RKIAO18 /clone_end=3 /gb=AA892248 /gi=3019127 /ug=Rn.2277 /len=587
AA8922 48	5693	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		Rattus norvegicus mitochondrial genome	rc_AA892248 EST196051 Rattus norvegicus cDNA, 3' end /clone=RKIAO18 /clone_end=3 /gb=AA892248 /gi=3019127 /ug=Rn.2277 /len=587
AA8922 59	5694	NP_036 723	5695	5696	5697	ESTe, Highly similar to ICSB MOUSE INTERFERON CONSENSUS SEQUENCE BINDING PROTEIN [M.musculus]	rc_AA892259 EST196062 Rattus norvegicus cDNA, 3' end /clone=RKIAO29 /clone_end=3 /gb=AA892259 /gi=3019138 /ug=Rn.3765 /len=625
AA8922 60	5698	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	rc_AA892280 EST196063 Rattus norvegicus cDNA, 3' end /clone=RKIAO30 /clone_end=3 /gb=AA892280 /gi=3019139 /ug=Rn.8526 /len=554

Table 2.

AA8922 60	5699	No Rat Protein Found.	No human homolog found.	5701	No Human Protein Found.	5702	89.73	EST (not recognised)	rc_AA892260 EST196063 Rattus norvegicus cDNA, 3' end /clone=RKIAO30 /clone_end=3 /gb=AA892260 /gi=3019139 /ug=Rn.9526 /len=554
AA8922 68	5700	No Rat Protein Found.			P34925			EST(not recognised)	rc_AA892268 EST196071 Rattus norvegicus cDNA, 3' end /clone=RKIAO42 /clone_end=3 /gb=AA892268 /gi=3019147 /ug=Rn.14745 /len=433
AA8922 70	5703	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			Mus musculus 10 day old male pancreas cDNA, RIKEN	rc_AA892270 EST196073 Rattus norvegicus cDNA, 3' end /clone=RKIAO44 /clone_end=3 /gb=AA892270 /gi=3019149 /ug=Rn.3280 /len=584
AA8922 70	5704	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			Mus musculus 10 day old male pancreas cDNA, RIKEN	rc_AA892270 EST196073 Rattus norvegicus cDNA, 3' end /clone=RKIAO44 /clone_end=3 /gb=AA892270 /gi=3019149 /ug=Rn.3280 /len=584
AA8922 71	5705	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST (mouse chromosome)	rc_AA892271 EST196074 Rattus norvegicus cDNA, 3' end /clone=RKIAO45 /clone_end=3 /gb=AA892271 /gi=3019150 /ug=Rn.3767 /len=665
AA8922 73	5706	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST(not recognised)	rc_AA892273 EST196076 Rattus norvegicus cDNA, 3' end /clone=RKIAO47 /clone_end=3 /gb=AA892273 /gi=3019152 /ug=Rn.18941 /len=529
AA8922 84	5707	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST(not recognised)	rc_AA892284 EST196087 Rattus norvegicus cDNA, 3' end /clone=RKIAO58 /clone_end=3 /gb=AA892284 /gi=3019163 /ug=Rn.22719 /len=572
AA8922 97	5708	AAK111 83	5709	5710	Q92769	5711	92.12	Histone deacetylase 2	rc_AA892297 EST196100 Rattus norvegicus cDNA, 3' end /clone=RKIAO73 /clone_end=3 /gb=AA892297 /gi=3019176 /ug=Rn.1797 /len=640

Table 2.

AA8922 98	5712	CSRTA	5713	AF251049	5714	S64705	5715	95.29	ESTs, Weakly similar to PEPTIDYL- PROLYL CIS- TRANS ISOMERASE A [R.norvegicus]		rc_AA892298 EST198101 Rattus norvegicus cDNA, 3' end /clone=RKJAO74 /clone_end=3 /gb=AA892298 /gi=3019177 /ug=Rn.14747 /len=601
AA8922 99	5716	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA892299 EST198102 Rattus norvegicus cDNA, 3' end /clone=RKJAO75 /clone_end=3 /gb=AA892299 /gi=3019178 /ug=Rn.1708 /len=665
AA8923 00	5717	No Rat Protein Found.		U19721	5718	P50542	5719	92.45	peroxisome receptor 1 (PXR1)		rc_AA892300 EST198103 Rattus norvegicus cDNA, 3' end /clone=RKJAO76 /clone_end=3 /gb=AA892300 /gi=3019179 /ug=Rn.14316 /len=552
AA8923 18	5720	BAA947 43	5721	AB035384	5722	XP_038 801	5723	92.68	Mus musculus mRNA for SRp25 nuclear protein, complete cds	AB035383	rc_AA892318 EST198121 Rattus norvegicus cDNA, 3' end /clone=RKJAO96 /clone_end=3 /gb=AA892318 /gi=3019197 /ug=Rn.3772 /len=541
AA8923 18	5724	BAA947 43	5725	AB035384	5726	NP_057 722	5727	92.68	SRp25 nuclear protein	AB035383	rc_AA892318 EST198121 Rattus norvegicus cDNA, 3' end /clone=RKJAO96 /clone_end=3 /gb=AA892318 /gi=3019197 /ug=Rn.3772 /len=541
AA8923 18	5728	BAA947 43	5729	AB035384	5730	XP_038 801	5731	92.68	Mus musculus mRNA for SRp25 nuclear protein, complete cds	AB035383	rc_AA892318 EST198121 Rattus norvegicus cDNA, 3' end /clone=RKJAO96 /clone_end=3 /gb=AA892318 /gi=3019197 /ug=Rn.3772 /len=541

Table 2.

AA892318	5732	BA847143	5733	AB035384	5734	NP_057722	5735	92.68	SRQ25 nuclear protein	AB035383	rc_AA892318 EST198121 Rattus norvegicus cDNA, 3' end /clone=RKIAO96 /clone_end=3 /gb=AA892318 /gi=3019197 /ug=Rn.3772 /len=541
AA892319	5736	No Rat Protein Found.	5739	AK000386	5737	XP_041315		86.5	Homo sapiens KIAA0781 protein		rc_AA892319 EST198122 Rattus norvegicus cDNA, 3' end /clone=RKJAP01 /clone_end=3 /gb=AA892319 /gi=3019198 /ug=Rn.19709 /len=593
AA892325	5738	BAB25375	5739	XM_052194		XP_052194		67	choline/ethanolaminephosphotransferase (CEPT1),	AK007864	rc_AA892325 EST198128 Rattus norvegicus cDNA, 3' end /clone=RKJAP09 /clone_end=3 /gb=AA892325 /gi=3019204 /ug=Rn.2636 /len=618
AA892353	5740	BAB24300	5741	XM_016716		XP_016716			ESTs, Weakly similar to T33520 hypothetical protein T10B11.6 - Caenorhabditis elegans [C.elegans]		rc_AA892353 EST198156 Rattus norvegicus cDNA, 3' end /clone=RKJAP42 /clone_end=3 /gb=AA892353 /gi=3019232 /ug=Rn.8133 /len=508
AA892353	5742	BAB24300	5743	XM_016716		XP_016716			ESTs, Weakly similar to T33520 hypothetical protein T10B11.6 - C.elegans (Listed is rat EST; mouse hypothetical protein)		rc_AA892353 EST198156 Rattus norvegicus cDNA, 3' end /clone=RKJAP42 /clone_end=3 /gb=AA892353 /gi=3019232 /ug=Rn.8133 /len=508
AA892364	5744	NP_068360	5745	AB028309	5746	NP_057398	5747	94.7	WW domain binding protein 11 (Wbp11),	NM_021714	rc_AA892364 EST198167 Rattus norvegicus cDNA, 3' end /clone=RKJAP55 /clone_end=3 /gb=AA892364 /gi=3019243 /ug=Rn.7741 /len=622



Table 2.

AA8923 73	5748	Q8J192	5749	U83463	5750	O00560	5751	87.13	syntenin-1	AJ292243	rc_AA892373 EST196176 Rattus norvegicus cDNA, 3' end /clone=RKAP65 /clone_end=3 /gb=AA892373 /gi=3019252 /ug=Rn.4309 /len=727	Mainly membrane- associated.	Syntenin 1 (Syndecan binding protein 1).
AA8923 78	5752	NP_075 361	5753	AF061739	5754	XP_044 547	5755	93.22	protein associated with PRK1 (AWP1)	NM_02298 5	rc_AA892376 EST196179 Rattus norvegicus cDNA, 3' end /clone=RKAP68 /clone_end=3 /gb=AA892376 /gi=3019255 /ug=Rn.2902 /len=624		
AA8923 78	5756	NP_079 838	5757	NM_0160 68	5758	AAD341 30	5759	92.68	ESTs, Highly similar to AF151893 1 CGI-135 protein [H.sepiens]		rc_AA892378 EST196181 Rattus norvegicus cDNA, 3' end /clone=RKAP70 /clone_end=3 /gb=AA892378 /gi=3019257 /ug=Rn.1298 /len=569		
AA8923 78	5760	No Rat Protein Found.		NM_0160 68	5761	XP_051 242		92.68	ESTs, Highly similar to AF151893 1 CGI-135 protein [H.sepiens]		rc_AA892378 EST196181 Rattus norvegicus cDNA, 3' end /clone=RKAP70 /clone_end=3 /gb=AA892378 /gi=3019257 /ug=Rn.1298 /len=569		
AA8923 78	5762	NP_079 838	5763	NM_0160 68	5764	AAD341 30	5765	92.68	ESTs, Highly similar to AF151893 1 CGI-135 protein [H.sepiens]		rc_AA892378 EST196181 Rattus norvegicus cDNA, 3' end /clone=RKAP70 /clone_end=3 /gb=AA892378 /gi=3019257 /ug=Rn.1298 /len=569		
AA8923 78	5766	No Rat Protein Found.		NM_0160 68	5767	XP_051 242		92.68	ESTs, Highly similar to AF151893 1 CGI-135 protein [H.sepiens]		rc_AA892378 EST196181 Rattus norvegicus cDNA, 3' end /clone=RKAP70 /clone_end=3 /gb=AA892378 /gi=3019257 /ug=Rn.1298 /len=569		

Table 2.

AA8923 88	5768	P27274	5769	AF052941	5770	NP_055 141	5771	92.06	Mus musculus mRNA for Death- associated protein kinase 2	AB018002	rc_AA892388 EST198191 Rattus norvegicus cDNA, 3' end /clone=RKJAP90 /clone_end=3 /gb=AA892388 /gi=3019287 /ug=Rn.1231 /len=849	Attached to the membrane by a GPI- anchor.	CD59 glycoprotein precursor (Membrane attack complex inhibition factor) (MACIF) (MAC- inhibitory protein) (MAC- IP) (Protectin).
AA8923 94	5772	No Rat Protein Found.		AK057016	5773	No Human Protein Found.		100	EST(not recognised)		rc_AA892394 EST198197 Rattus norvegicus cDNA, 3' end /clone=RKJAP90 /clone_end=3 /gb=AA892394 /gi=3019273 /ug=Rn.4183 /len=609		
AA8923 94	5774	No Rat Protein Found.		AK057016	5775	No Human Protein Found.		100	EST(not recognised)		rc_AA892394 EST198197 Rattus norvegicus cDNA, 3' end /clone=RKJAP90 /clone_end=3 /gb=AA892394 /gi=3019273 /ug=Rn.4183 /len=609		
AA8924 00	5776	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA892400 EST198203 Rattus norvegicus cDNA, 3' end /clone=RKJAP90 /clone_end=3 /gb=AA892400 /gi=3019279 /ug=Rn.14755 /len=393		
AA8924 00	5777	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA892400 EST198203 Rattus norvegicus cDNA, 3' end /clone=RKJAP90 /clone_end=3 /gb=AA892400 /gi=3019279 /ug=Rn.14755 /len=393		
AA8924 14	5778	AAF143 45	5779	AF047033	5780	AAD383 22	5781		sodium bicarbonate cotransporter 3 (SLC4A7)		rc_AA892414 EST198217 Rattus norvegicus cDNA, 3' end /clone=RKJAP90 /clone_end=3 /gb=AA892414 /gi=3019293 /ug=Rn.25345 /len=448		

Table 2.

AA8924 17	5782	P97553	5783	M57730	5784	P20827	5785	86.39	Mus musculus adult male tongue cDNA, RIKEN		rc_AA892417 EST196220 Rattus norvegicus cDNA, 3' end /clone=RKIAQ20 /clone_end=3 /gb=AA892417 /gi=3018296 /ug=Rn.8427 /len=482	Attached to the membrane by a GPI- anchor.	Ephrin-A1 precursor (EPH- related receptor tyrosine kinase ligand 1)(LERK- 1) (Immediate early response protein B61).
AA8924 25	5786	No Rat Protein Found.		AA411025	5787	No Human Protein Found.		94.06	Mus musculus 11 days embryo cDNA, RIKEN		rc_AA892425 EST196228 Rattus norvegicus cDNA, 3' end /clone=RKIAQ30 /clone_end=3 /gb=AA892425 /gi=3019304 /ug=Rn.8544 /len=498		
AA8924 85	5788	No Rat Protein Found.		D29677	5789	P42694	5790	86.94	Homo sapiens helicase KJAA0054		rc_AA892465 EST196268 Rattus norvegicus cDNA, 3' end /clone=RKIAQ77 /clone_end=3 /gb=AA892465 /gi=3019344 /ug=Rn.18942 /len=446		
AA8924 96	5791	No Rat Protein Found.		AK026415	5792	P52757	5793	93.46	Weak homology with Homo sapiens chimerin (chimaerin) 2 (CHN2)		rc_AA892498 EST196289 Rattus norvegicus cDNA, 3' end /clone=RKIAS17 /clone_end=3 /gb=AA892496 /gi=3019375 /ug=Rn.3571 /len=586		
AA8925 00	5794	BAA773 41	5795	AB014523	5796	XP_008 514	5797	86.89	UNC-51-like kinase (ULK) 2	AB019577	rc_AA892500 EST196303 Rattus norvegicus cDNA, 3' end /clone=RKIAS21 /clone_end=3 /gb=AA892500 /gi=3019378 /ug=Rn.8300 /len=580		
AA8925 00	5798	BAA773 41	5799	AB014523	5800	XP_008 514	5801	86.89	UNC-51-like kinase (ULK) 2	AB019577	rc_AA892500 EST196303 Rattus norvegicus cDNA, 3' end /clone=RKIAS21 /clone_end=3 /gb=AA892500 /gi=3019378 /ug=Rn.8300 /len=590		
AA8925 05	5802	BAB232 17	5803	AF230924	5804	XP_042 829	5805	91.22	Homo sapiens divalent cation tolerant protein CUTA		rc_AA892505 EST196308 Rattus norvegicus cDNA, 3' end /clone=RKIAS28 /clone_end=3 /gb=AA892505 /gi=3019384 /ug=Rn.2595 /len=562		

Table 2.

AA8925 07	5806	BAB226 91	5807	NM_0015 45	5808	Q14197	5809	86.86	ESTs, Moderately similar to DS1_HUMAN DS-1 PROTEI [H.sapiens]		rc_AA892507 EST198310 Rattus norvegicus cDNA, 3' end /clone=RKIAS28 /clone_end=3 /gb=AA892507 /gi=3018386 /ug=Rn.22728 /len=541
AA8925 11	5810	AAF404 39	5811	U61538	5812	Q99653	5813		Mus musculus testacalcin	AF234783	rc_AA892511 EST198314 Rattus norvegicus cDNA, 3' end /clone=RKIAS32 /clone_end=3 /gb=AA892511 /gi=3018390 /ug=Rn.14758 /len=593
AA8925 11	5814	AAF404 39	5815	U61538	5816	Q99653	5817		Mus musculus testacalcin	AF234783	rc_AA892511 EST198314 Rattus norvegicus cDNA, 3' end /clone=RKIAS32 /clone_end=3 /gb=AA892511 /gi=3018390 /ug=Rn.14758 /len=593
AA8925 22	5818	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA892522 EST198325 Rattus norvegicus cDNA, 3' end /clone=RKIAS45 /clone_end=3 /gb=AA892522 /gi=3019401 /ug=Rn.19440 /len=560
AA8925 26	5819	No Rat Protein Found.		AB002405	5820	No Human Protein Found.	5821	87.5	Mus musculus, clone MGC:19168		rc_AA892526 EST198329 Rattus norvegicus cDNA, 3' end /clone=RKIAS49 /clone_end=3 /gb=AA892526 /gi=3019405 /ug=Rn.14761 /len=502
AA8925 31	5822	B39066		AL136746	5823	AAG155 89	5824	94.78	ESTs, Weakly similar to B39066 proline-rich protein 15 - rat [R.norvegicus]		rc_AA892531 EST198334 Rattus norvegicus cDNA, 3' end /clone=RKIAS55 /clone_end=3 /gb=AA892531 /gi=3019410 /ug=Rn.23798 /len=559
AA8925 38	5825	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (some homology with mouse chromosomal)		rc_AA892538 EST198341 Rattus norvegicus cDNA, 3' end /clone=RKIAS62 /clone_end=3 /gb=AA892538 /gi=3019417 /ug=Rn.3573 /len=609
AA8925 38	5826	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (some homology with mouse chromosomal)		rc_AA892538 EST198341 Rattus norvegicus cDNA, 3' end /clone=RKIAS62 /clone_end=3 /gb=AA892538 /gi=3019417 /ug=Rn.3573 /len=609

Table 2.

AA8925 47	5827	No Rat Protein Found.	AI827365	5828	AAF291 25	5829	93.81	Homo sapiens HSPC161	rc_AA892547 EST196350 Rattus norvegicus cDNA, 3' end /clone=RKIAS72 /clone_end=3 /gb=AA892547 /gi=3019428 /ug=Rn.3269 /len=584
AA8925 48	5830	P02551	5831	5832	A23035	100	100	Alpha-tubulin	rc_AA892548 EST196351 Rattus norvegicus cDNA, 3' end /clone=RKIAS73 /clone_end=3 /gb=AA892548 /gi=3019427 /ug=Rn.14764 /len=618
AA8925 49	5833	No Rat Protein Found.	No human homolog found.	No	Human Protein Found.	EST(not recognised)	EST(not recognised)	EST(not recognised)	rc_AA892549 EST196352 Rattus norvegicus cDNA, 3' end /clone=RKIAS74 /clone_end=3 /gb=AA892549 /gi=3019428 /ug=Rn.3576 /len=644
AA8925 50	5834	No Rat Protein Found.	AK024048	5835	No	Human Protein Found.	92.96	EST(not recognised)	rc_AA892550 EST196353 Rattus norvegicus cDNA, 3' end /clone=RKIAS75 /clone_end=3 /gb=AA892550 /gi=3019429 /ug=Rn.4284 /len=566
AA8925 50	5837	No Rat Protein Found.	AK024048	5838	No	Human Protein Found.	92.96	EST(not recognised)	rc_AA892550 EST196353 Rattus norvegicus cDNA, 3' end /clone=RKIAS75 /clone_end=3 /gb=AA892550 /gi=3019429 /ug=Rn.4284 /len=566
AA8925 54	5840	No Rat Protein Found.	AF070615	5841	Q8UN86	5842	95.1	Homo sapiens Ras-GTPase activating protein SH3 domain- binding protein 2 (KIAA0660)	rc_AA892554 EST196357 Rattus norvegicus cDNA, 3' end /clone=RKIAS78 /clone_end=3 /gb=AA892554 /gi=3019433 /ug=Rn.22084 /len=549
AA8925 54	5843	No Rat Protein Found.	AF070615	5844	Q8UN86	5845	95.1	Homo sapiens Ras-GTPase activating protein SH3 domain- binding protein 2 (KIAA0660)	rc_AA892554 EST196357 Rattus norvegicus cDNA, 3' end /clone=RKIAS78 /clone_end=3 /gb=AA892554 /gi=3019433 /ug=Rn.22084 /len=549

Tubulin alpha-1  
chain.

Table 2.

AA8925 54	5846	No Rat Protein Found.	AF070615	5847	Q9UN86	5848	95.1	Homo sapiens Rae-GTPase activating protein SH3 domain- binding protein 2 (KIAA0660)	rc_AA892554 EST186357 Rattus norvegicus cDNA, 3' end /clone=RKIAS79 /clone_end=3 /gb=AA892554 /gi=3019433 /ug=Rn.22084 /len=549
AA8925 54	5849	No Rat Protein Found.	AF070615	5850	Q9UN86	5851	95.1	Homo sapiens Rae-GTPase activating protein SH3 domain- binding protein 2 (KIAA0660)	rc_AA892554 EST186357 Rattus norvegicus cDNA, 3' end /clone=RKIAS79 /clone_end=3 /gb=AA892554 /gi=3019433 /ug=Rn.22084 /len=549
AA8925 61	5852	No Rat Protein Found.	NM_0140 39	5853	No Human Protein Found.		87.2	EST (not recognized)	rc_AA892561 EST186364 Rattus norvegicus cDNA, 3' end /clone=RKIAS89 /clone_end=3 /gb=AA892561 /gi=3019440 /ug=Rn.24636 /len=459
AA8926 35	5854	TVRTR H	5855	5856	P17081	5857	94.26	Rae-like protein	rc_AA892635 EST186438 Rattus norvegicus cDNA, 3' end /clone=RKIAV15 /clone_end=3 /gb=AA892635 /gi=3019514 /ug=Rn.12720 /len=478
AA8926 35	5858	TVRTR H	5859	5860	P17081	5861	94.26	Rae-like protein	rc_AA892635 EST186438 Rattus norvegicus cDNA, 3' end /clone=RKIAV15 /clone_end=3 /gb=AA892635 /gi=3019514 /ug=Rn.12720 /len=478
AA8926 37	5862	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST (not recognized)	rc_AA892637 EST186440 Rattus norvegicus cDNA, 3' end /clone=RKIAV17 /clone_end=3 /gb=AA892637 /gi=3019516 /ug=Rn.11527 /len=480
AA8926 42	5863	No Rat Protein Found.	AL162039	5864	No Human Protein Found.		83.23	Homo sapiens mRNA: cDNA DKFZp434M2 29	rc_AA892642 EST186445 Rattus norvegicus cDNA, 3' end /clone=RKIAV23 /clone_end=3 /gb=AA892642 /gi=3019521 /ug=Rn.14778 /len=506

Table 2.

AA892675	5865	No Rat Protein Found.	AF287858	5866	AAG44727	5867	GL014 mRNA	rc_AA892675 EST196478 Rattus norvegicus cDNA, 3' end /clone=RKIAV64 /clone_end=3 /gb=AA892675 /gi=3019554 /ug=Rn.16542 /len=413
AA892680	5868	CSRTA	5869	5870	S64705	5871	ESTs, Weakly similar to PEPTIDYL-PROLYL CIS-TRANS ISOMERASE A [R.norvegicus]	rc_AA892680 EST196483 Rattus norvegicus cDNA, 3' end /clone=RKIAV69 /clone_end=3 /gb=AA892680 /gi=3019559 /ug=Rn.14747 /len=451
AA892754	5872	No Rat Protein Found.	No human homolog found.	No	Human Protein Found.		EST (not recognized)	rc_AA892754 EST196557 Rattus norvegicus cDNA, 3' end /clone=RKIAW82 /clone_end=3 /gb=AA892754 /gi=3019633 /ug=Rn.14788 /len=382
AA892775	5873	NP_036903	5874	5875	P00695	5876	Lysozyme	rc_AA892775 EST196578 Rattus norvegicus cDNA, 3' end /clone=RKIA18 /clone_end=3 /gb=AA892775 /gi=3019654 /ug=Rn.2283 /len=711
AA892779	5877	No Rat Protein Found.	AL136667	5878	No Human Protein Found.	5879	EST (not recognized)	rc_AA892779 EST196582 Rattus norvegicus cDNA, 3' end /clone=RKIA22 /clone_end=3 /gb=AA892779 /gi=3019658 /ug=Rn.7319 /len=662
AA892779	5880	No Rat Protein Found.	AL136667	5881	No Human Protein Found.	5882	EST (not recognized)	rc_AA892779 EST196582 Rattus norvegicus cDNA, 3' end /clone=RKIA22 /clone_end=3 /gb=AA892779 /gi=3019658 /ug=Rn.7319 /len=662
AA892780	5883	No Rat Protein Found.	No human homolog found.	No	Human Protein Found.		EST (not recognized)	rc_AA892780 EST196583 Rattus norvegicus cDNA, 3' end /clone=RKIA23 /clone_end=3 /gb=AA892780 /gi=3019659 /ug=Rn.14793 /len=558
AA892801	5884	P05197	5885	5886	P13639	5887	Eukaryotic translation elongation factor 2	rc_AA892801 EST196604 Rattus norvegicus cDNA, 3' end /clone=RKIA44 /clone_end=3 /gb=AA892801 /gi=3019680 /ug=Rn.3610 /len=528
							Cytoplasmic.	
							Elongation factor 2 (EF-2).	

Table 2.

AA8928 01	5888	P05197	5889	M19897	5890	P13639	5891	99	Eukaryotic translation elongation factor 2	rc_AA892801 EST196604 Rattus norvegicus cDNA, 3' end /clone=RK1AX44 /clone_end=3 /gb=AA892801 /gi=3019680 /ug=Rn.3610 /len=528	Cytoplasmic.	Elongation factor 2 (EF-2).
AA8928 01	5892	P05197	5893	M19897	5894	P13639	5895	99	Eukaryotic translation elongation factor 2	rc_AA892801 EST196604 Rattus norvegicus cDNA, 3' end /clone=RK1AX44 /clone_end=3 /gb=AA892801 /gi=3019680 /ug=Rn.3610 /len=528	Cytoplasmic.	Elongation factor 2 (EF-2).
AA8928 01	5896	P05197	5897	M19897	5898	P13639	5899	99	Eukaryotic translation elongation factor 2	rc_AA892801 EST196604 Rattus norvegicus cDNA, 3' end /clone=RK1AX44 /clone_end=3 /gb=AA892801 /gi=3019680 /ug=Rn.3610 /len=528	Cytoplasmic.	Elongation factor 2 (EF-2).
AA8928 05	5900	No Rat Protein Found.		BG420645	5901	No Human Protein Found.		81.94	Mus musculus adult male testis cDNA, RIKEN	rc_AA892805 EST196608 Rattus norvegicus cDNA, 3' end /clone=RK1AX50 /clone_end=3 /gb=AA892805 /gi=3019684 /ug=Rn.19944 /len=499		
AA8928 13	5902	No Rat Protein Found.		AF061261	5903	XP_007 221	5904	99.17	Homo sapiens region containing C3H-type zinc finger protein	rc_AA892813 EST196616 Rattus norvegicus cDNA, 3' end /clone=RK1AX58 /clone_end=3 /gb=AA892813 /gi=3019692 /ug=Rn.1940 /len=542		
AA8928 18	5905	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognised)	rc_AA892818 EST196621 Rattus norvegicus cDNA, 3' end /clone=RK1AX63 /clone_end=3 /gb=AA892818 /gi=3019697 /ug=Rn.14785 /len=543		
AA8928 20	5906	S70842		AB007899	5907	BAA237 11	5908	58	ESTe, Weakly similar to S70842 ubiquitin ligase Nedd4 - rat [R.norvegicus]	rc_AA892820 EST196623 Rattus norvegicus cDNA, 3' end /clone=RK1AX65 /clone_end=3 /gb=AA892820 /gi=3019699 /ug=Rn.1761 /len=590		



Table 2.

AA8928 21	5909	BAA803 96	5910	Y16675	5911	O43488	5912	88.43	Rattus norvegicus alar mRNA for androgen- inducible aldehyde reductase	rc_AA892821 EST196624 Rattus norvegicus cDNA, 3' end /clone=RK1AX66 /clone_end=3 /gb=AA892821 /gi=3019700 /ug=Rn.8548 /len=503
AA8928 21	5913	BAA803 96	5914	Y16675	5915	O43488	5916	88.43	Rattus norvegicus alar mRNA for androgen- inducible aldehyde reductase	rc_AA892821 EST196624 Rattus norvegicus cDNA, 3' end /clone=RK1AX66 /clone_end=3 /gb=AA892821 /gi=3019700 /ug=Rn.8548 /len=503
AA8928 28	5917	P49432	5918	M34055	5919	P11177	5920	96.15	ESTs, Highly similar to ODPB RAT PYRUVATE DEHYDROGE NASE E1 COMPONENT BETA SUBUNIT, MITOCHOND RUAL PRECURSOR [R.norvegicus]	rc_AA892828 EST196631 Rattus norvegicus cDNA, 3' end /clone=RK1AX75 /clone_end=3 /gb=AA892828 /gi=3019707 /ug=Rn.2273 /len=626

Table 2.

AA8928 28	5921	P49432	5922	M34055	5923	P11177	5924	96.15	ESTs, Highly similar to ODPB RAT PYRUVATE DEHYDROGE NASE E1 COMPONENT BETA SUBUNIT, MITOCHOND RIAL PRECURSOR [R.norvegicus]	rc_AA892828 EST196631 Rattus norvegicus cDNA, 3' end /clone=RKJAX75 /clone_end=3 /gb=AA892828 /gi=3019707 /ug=Rn.2273 /len=626
AA8928 28	5925	P49432	5926	M34055	5927	P11177	5928	96.15	ESTs, Highly similar to ODPB RAT PYRUVATE DEHYDROGE NASE E1 COMPONENT BETA SUBUNIT, MITOCHOND RIAL PRECURSOR [R.norvegicus]	rc_AA892828 EST196631 Rattus norvegicus cDNA, 3' end /clone=RKJAX75 /clone_end=3 /gb=AA892828 /gi=3019707 /ug=Rn.2273 /len=628



Table 2.

AA8928 28	5937	P49432	5938	M34055	5939	P11177	5940	96.15	ESTs, Highly similar to ODPB RAT PYRUVATE DEHYDROGE NASE E1 COMPONENT BETA SUBUNIT, MITOCHOND RIAL PRECURSOR [R.norvegicus]	rc_AA892828 EST196631 Rattus norvegicus cDNA, 3' end /clone=RK1AX75 /clone_end=3 /gb=AA892828 /gi=3019707 /ug=Rn.2273 /len=626
AA8928 29	5941	NP_035 893	5942	Y10387	5943	O43252	5944	86.44	Mus musculus 3'- phosphoaden osine 5'- phosphosulfat e synthase 1	rc_AA892829 EST196632 Rattus norvegicus cDNA, 3' end /clone=RK1AX76 /clone_end=3 /gb=AA892829 /gi=3019708 /ug=Rn.3507 /len=634
AA8928 32	5945	No Rat Protein Found.	No human homolog found.	No human homolog found.	5947	JC1235		93.82	ESTs, Moderately similar to BTF3 MOUSE TRANSCRIPT ION FACTOR BTF3 [M.musculus]	rc_AA892832 EST196635 Rattus norvegicus cDNA, 3' end /clone=RK1AX79 /clone_end=3 /gb=AA892832 /gi=3019711 /ug=Rn.4243 /len=605
AA8928 35	5948	No Rat Protein Found.	AK027582							rc_AA892835 EST196638 Rattus norvegicus cDNA, 3' end /clone=RK1AX82 /clone_end=3 /gb=AA892835 /gi=3019714 /ug=Rn.3613 /len=570
AA8928 42	5948	No Rat Protein Found.	U03851	5949	P47755		5950	96.85	Rattus norvegicus clone RP31- 188L2	rc_AA892842 EST196645 Rattus norvegicus cDNA, 3' end /clone=RK1AX80 /clone_end=3 /gb=AA892842 /gi=3019721 /ug=Rn.3947 /len=544

Table 2.

AA8928 43	5951	No Rat Protein Found.	AK024570	5952	No Human Protein Found.	5953	87.57	Mus musculus, RIKEN cDNA 2010005E08	AJ223966	rc_AA892843 EST196646 Rattus norvegicus cDNA, 3 end /clone=RK1AX91 /clone_end=3 /gb=AA892843 /gi=3019722 /ug=Rn.3728 /len=600
AA8928 47	5954	CAA11 703	5955	5956	P17050	5957	82	alpha-N- acetylglactos aminidase		rc_AA892847 EST196650 Rattus norvegicus cDNA, 3 end /clone=RK1AX96 /clone_end=3 /gb=AA892847 /gi=3019728 /ug=Rn.25171 /len=537
AA8928 49	5958	No Rat Protein Found.	BC002713	5959	Q14582	5960	96.15	Mus musculus 10 day old male pancreas		rc_AA892849 EST196652 Rattus norvegicus cDNA, 3 end /clone=RK1AY06 /clone_end=3 /gb=AA892849 /gi=3019728 /ug=Rn.3615 /len=593
AA8928 51	5961	No Rat Protein Found.	BE139189	5962	AAC500 62	5963	90.18	cDNA, RIKEN EST, weakly similar to Human protein tyrosine kinase		rc_AA892851 EST196654 Rattus norvegicus cDNA, 3 end /clone=RK1AY09 /clone_end=3 /gb=AA892851 /gi=3019730 /ug=Rn.3616 /len=586
AA8928 51	5964	No Rat Protein Found.	BE139189	5965	AAC500 62	5966	90.18	EST, weakly similar to Human protein tyrosine kinase		rc_AA892851 EST196654 Rattus norvegicus cDNA, 3 end /clone=RK1AY09 /clone_end=3 /gb=AA892851 /gi=3019730 /ug=Rn.3616 /len=586
AA8928 51	5967	No Rat Protein Found.	BE139189	5968	AAC500 62	5969	90.18	EST, weakly similar to Human protein tyrosine kinase		rc_AA892851 EST196654 Rattus norvegicus cDNA, 3 end /clone=RK1AY09 /clone_end=3 /gb=AA892851 /gi=3019730 /ug=Rn.3616 /len=586
AA8928 51	5970	No Rat Protein Found.	BE139189	5971	AAC500 62	5972	90.18	EST, weakly similar to Human protein tyrosine kinase		rc_AA892851 EST196654 Rattus norvegicus cDNA, 3 end /clone=RK1AY09 /clone_end=3 /gb=AA892851 /gi=3019730 /ug=Rn.3616 /len=586

Table 2.

AA8928 54	5973	NP_061 354	5974	NM_0064 19	5975	O43927	5976	44	small inducible cytokine subfamily B (Cys-X-Cys), member 13 (Scyb13),	NM_01886 6	rc_AA892854 EST196657 Rattus norvegicus cDNA, 3' end /clone=RK1AY12 /clone_end=3 /gb=AA892854 /gl=3019733 /ug=Rn.6917 /len=591
AA8928 60	5977	No Rat Protein Found.		AA032215	5978	Q07889	5979	94.37	EST(not recognised)	rc_AA892860 EST196663 Rattus norvegicus cDNA, 3' end /clone=RK1AY20 /clone_end=3 /gb=AA892860 /gl=3019739 /ug=Rn.21424 /len=436	
AA8928 60	5980	No Rat Protein Found.		AA032215	5981	Q07889	5982	94.37	EST(not recognised)	rc_AA892860 EST196663 Rattus norvegicus cDNA, 3' end /clone=RK1AY20 /clone_end=3 /gb=AA892860 /gl=3019739 /ug=Rn.21424 /len=436	
AA8928 63	5983	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)	rc_AA892863 EST196666 Rattus norvegicus cDNA, 3' end /clone=RK1AY23 /clone_end=3 /gb=AA892863 /gl=3019742 /ug=Rn.1076 /len=534	
AA8928 64	5984	NP_035 974	5985	XM_04258 5		XP_042 585		84	Monoglyceride lipase	rc_AA892884 EST196667 Rattus norvegicus cDNA, 3' end /clone=RK1AY25 /clone_end=3 /gb=AA892884 /gl=3019743 /ug=Rn.18592 /len=570	
AA8928 88	5986	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)	rc_AA892888 EST196691 Rattus norvegicus cDNA, 3' end /clone=RK1AY54 /clone_end=3 /gb=AA892888 /gl=3019767 /ug=Rn.14801 /len=508	
AA8928 95	5987	P11174	5988	AA434279	5989	R3HU15	5990	93.45	Ribosomal protein S15	rc_AA892895 EST196698 Rattus norvegicus cDNA, 3' end /clone=RK1AY64 /clone_end=3 /gb=AA892895 /gl=3019774 /ug=Rn.3391 /len=508	
											40S ribosomal protein S15 (RIG protein).

Table 2.

AA8928195	5991	P11174	5982	AA434279	5993	R3HU15	5994	83.45	Ribosomal protein S15		rc_AA892895 EST196698 Rattus norvegicus cDNA, 3' end /clone=RKJAY64 /clone_end=3 /gb=AA892895 /g=3019774 /ug=Rn.3391 /len=508	40S ribosomal protein S15 (RIG protein).
AA892819	5985	P41777	5986	No human homolog found.	No Human Protein Found.				Nucleolar phosphoprotein of 140kD	M94288	rc_AA892819 EST196722 Rattus norvegicus cDNA, 3' end /clone=RKJAY91 /clone_end=3 /gb=AA892819 /g=3019798 /ug=Rn.9517 /len=574	SHUTTLES ON CURVILINEAR TRACKS BETWEEN NUCLEOLUS AND CYTOPLASM. THESE TRACKS EXTEND FROM THE DENSE FIBRILLAR COMPONENT OF THE NUCLEOLUS ACROSS THE NUCLEOLAR SURFACE TO A LIMITED NUMBER OF NUCLEAR PORE COMPLEXES.

Table 2.

AA892919	5997	P41777	5998	XM_005918	XP_005918	42	nucleolar phosphoprotein of 140kD, Nopp140	IM94288	rc_AA892919 EST198722 Rattus norvegicus cDNA, 3' end /clone=RKJAY91 /clone_end=3 /gb=AA892919 /gi=3019798 /ug=Rn.9517 /len=574	SHUTTLES ON CURVILINEAR TRACKS BETWEEN NUCLEOLUS AND CYTOPLASM. THESE TRACKS EXTEND FROM THE DENSE FIBRILLAR COMPONENT OF THE NUCLEOLUS ACROSS THE NUCLEOLAR PERIPHERY TO A LIMITED NUMBER OF NUCLEAR PORE COMPLEXES	Nucleolar phosphoprotein p130 (Nucleolar protein) (140 kDa) (Nopp140) (Nucleolar and cytoplasmic body phosphoprotein 1).
AA892967	5999	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		RIKEN full-length cDNA mouse	AK018158	rc_AA892967 EST198770 Rattus norvegicus cDNA, 3' end /clone=RKIBA44 /clone_end=3 /gb=AA892967 /gi=3019846 /ug=Rn.1936 /len=379		
AA892999	6000	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		EST(not recognised)		rc_AA892999 EST198802 Rattus norvegicus cDNA, 3' end /clone=RKIBA90 /clone_end=3 /gb=AA892999 /gi=3019878 /ug=Rn.13463 /len=455		
AA893002	6001	No Rat Protein Found.	6002	BG281086	No Human Protein Found.	92.24	EST (not recognised)		rc_AA893002 EST198805 Rattus norvegicus cDNA, 3' end /clone=RKIBA84 /clone_end=3 /gb=AA893002 /gi=3019881 /ug=Rn.13464 /len=289		



Table 2.

AA8930 11	6003	No Rat Protein Found.	No human homolog found.	6007	No Human Protein Found.	6008	97.47	EST (not recognized)	NM_019318	rc_AA893011 EST196814 Rattus norvegicus cDNA, 3' end /clone=RKIB808 /clone_end=3 /gb=AA893011 /gi=3019890 /ug=Rn.22720 /len=365
AA8930 32	6004	No Rat Protein Found.	No human homolog found.	6006	No Human Protein Found.	6007	97.47	EST (not recognized)	NM_019318	rc_AA893032 EST196835 Rattus norvegicus cDNA, 3' end /clone=RKIB31 /clone_end=3 /gb=AA893032 /gi=3019911 /ug=Rn.12640 /len=367
AA8930 82	6005	NP_062191	AF055376	6006	XP_035579	6007	97.47	v-maf musculoaponeurotic fibrosarcoma	NM_019318	rc_AA893082 EST196885 Rattus norvegicus cDNA, 3' end /clone=RKIB88 /clone_end=3 /gb=AA893082 /gi=3019961 /ug=Rn.6545 /len=479
AA8930 88	6009	No Rat Protein Found.	No human homolog found.	6011	No Human Protein Found.	6011	93.39	EST (not recognized)		rc_AA893088 EST196891 Rattus norvegicus cDNA, 3' end /clone=RKIB89 /clone_end=3 /gb=AA893088 /gi=3019967 /ug=Rn.3649 /len=479
AA8931 72	6010	No Rat Protein Found.	AK023165	6011	No Human Protein Found.	6011	93.39	EST (not recognized)		rc_AA893172 EST196975 Rattus norvegicus cDNA, 3' end /clone=RKIBD10 /clone_end=3 /gb=AA893172 /gi=3020051 /ug=Rn.22629 /len=634
AA8931 83	6012	No Rat Protein Found.	XM_017866	6012	XP_017866	6012	63	ESTs, Weakly similar to S57447 HPBRII-7 protein [H.sapiens]		rc_AA893183 EST196986 Rattus norvegicus cDNA, 3' end /clone=RKIBD25 /clone_end=3 /gb=AA893183 /gi=3020062 /ug=Rn.24460 /len=491
AA8931 83	6013	No Rat Protein Found.	No human homolog found.	6013	S57447	6013	63	ESTs, Weakly similar to S57447 HPBRII-7 protein [H.sapiens]		rc_AA893183 EST196986 Rattus norvegicus cDNA, 3' end /clone=RKIBD25 /clone_end=3 /gb=AA893183 /gi=3020062 /ug=Rn.24460 /len=491

Table 2.

AA8931 83	6015	No Rat Protein Found.	XM_01786 6	XP_017 866		ESTs, Weakly similar to S57447 HPBR11-7 protein [H.sapiens]	rc_AA893183 EST196986 Rattus norvegicus cDNA, 3' end /clone=RKIBD25 /clone_end=3 /gb=AA893183 /gi=3020062 /ug=Rn.24460 /len=491
AA8931 83	6016	No Rat Protein Found.	No human homolog found.	S57447	6017	ESTs, Weakly similar to S57447 HPBR11-7 protein [H.sapiens]	rc_AA893183 EST196986 Rattus norvegicus cDNA, 3' end /clone=RKIBD25 /clone_end=3 /gb=AA893183 /gi=3020062 /ug=Rn.24460 /len=491
AA8931 84	6018	No Rat Protein Found.	XM_00609 4	XP_006 094		Pyruvate dehydrogenas e	rc_AA893184 EST196987 Rattus norvegicus cDNA, 3' end /clone=RKIBD26 /clone_end=3 /gb=AA893184 /gi=3020063 /ug=Rn.18819 /len=643
AA8931 93	6019	No Rat Protein Found.	AA904277	No Human Protein Found.	6020	EST(not recognised)	rc_AA893193 EST196996 Rattus norvegicus cDNA, 3' end /clone=RKIBD37 /clone_end=3 /gb=AA893193 /gi=3020072 /ug=Rn.1779 /len=646
AA8932 17	6021	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		Homo sapiens, clone IMAGE:46408 16	rc_AA893217 EST197020 Rattus norvegicus cDNA, 3' end /clone=RKIBD65 /clone_end=3 /gb=AA893217 /gi=3020096 /ug=Rn.1431 /len=663
AA8932 30	6022	No Rat Protein Found.	AF308287	No Human Protein Found.	6023	Mus musculus adult male tongue cDNA, RIKEN	rc_AA893230 EST197033 Rattus norvegicus cDNA, 3' end /clone=RKIBD83 /clone_end=3 /gb=AA893230 /gi=3020109 /ug=Rn.13485 /len=646
AA8932 60	6024	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		long interspersed repeated element LINE	rc_AA893260 EST197063 Rattus norvegicus cDNA, 3' end /clone=RKIBE21 /clone_end=3 /gb=AA893260 /gi=3020139 /ug=Rn.3550 /len=512
AA8932 89	6025	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)	rc_AA893289 EST197092 Rattus norvegicus cDNA, 3' end /clone=RKIBE68 /clone_end=3 /gb=AA893289 /gi=3020168 /ug=Rn.13493 /len=286

Table 2.

AA8933 120	6026	No Rat Protein Found.	6028	No human homolog found.	6029	No Human Protein Found.	6030	84	EST(not recognised)		rc_AA893320 EST197123 Rattus norvegicus cDNA, 3' end /clone=RKIBF04 /clone_end=3 /gb=AA893320 /gi=3020198 /ug=Rn.13340 /len=370
AA8933 28	6027	P35565	6028	L10284	6029	P27824	6030	84	ESTs, Highly similar to CALX RAT CALNEXIN PRECURSOR [R.norvegicus]		rc_AA893328 EST197131 Rattus norvegicus cDNA, 3' end /clone=RKIBF14 /clone_end=3 /gb=AA893328 /gi=3020207 /ug=Rn.22887 /len=362
AA8933 38	6031	No Rat Protein Found.		BC008045	6032	No Human Protein Found.	6033	95.18	Mus musculus adult male lung cDNA, RIKEN		rc_AA893338 EST197141 Rattus norvegicus cDNA, 3' end /clone=RKIBF24 /clone_end=3 /gb=AA893338 /gi=3020217 /ug=Rn.25105 /len=519
AA8934 06	6034	No Rat Protein Found.		No human homolog found.		No Human Protein Found.	6038	86	EST(not recognised)		rc_AA893408 EST197209 Rattus norvegicus cDNA, 3' end /clone=RLIAB05 /clone_end=3 /gb=AA893406 /gi=3020285 /ug=Rn.8150 /len=493
AA8934 43	6035	AA8927 87	6036	NM_0156 46	6037	P09526	6038	86	Rep1B		rc_AA893443 EST197248 Rattus norvegicus cDNA, 3' end /clone=RLIAB52 /clone_end=3 /gb=AA893443 /gi=3020322 /ug=Rn.4992 /len=548
AA8934 54	6039	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA893454 EST197257 Rattus norvegicus cDNA, 3' end /clone=RLIAB64 /clone_end=3 /gb=AA893454 /gi=3020333 /ug=Rn.7329 /len=387
AA8934 71	6040	NP_035 391	6041	NM_0050 45	6042	P78509	6043	93	reelin (Rein), 1	NM_01128 1	rc_AA893471 EST197274 Rattus norvegicus cDNA, 3' end /clone=RLIAB84 /clone_end=3 /gb=AA893471 /gi=3020350 /ug=Rn.11927 /len=354
AA8935 32	6044	AK0140 63		No human homolog found.		No Human Protein Found.			EST (mouse Riken protein)		rc_AA893532 EST197335 Rattus norvegicus cDNA, 3' end /clone=RLIAD60 /clone_end=3 /gb=AA893532 /gi=3020411 /ug=Rn.12953 /len=598
AA8935 69	6045	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA893569 EST197372 Rattus norvegicus cDNA, 3' end /clone=RPLAC07 /clone_end=3 /gb=AA893569 /gi=3020448 /ug=Rn.12954 /len=461

Table 2.

AA8935 96	6046	AK0160 67	6047	BC003542	6048	AAH035 42	6049	Mouse RIKEN full-length cDNA	rc_AA893596 EST197399 Rattus norvegicus cDNA, 3' end /clone=RPLAC38 /clone_end=3 /gb=AA893596 /gi=3020475 /ug=Rn.22237 /len=584
AA8935 96	6050	AK0160 67	6051	BC003542	6052	AAH035 42	6053	Mouse RIKEN full-length cDNA	rc_AA893596 EST197399 Rattus norvegicus cDNA, 3' end /clone=RPLAC38 /clone_end=3 /gb=AA893596 /gi=3020475 /ug=Rn.22237 /len=564
AA8936 03	6054	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		EST (not recognized)	rc_AA893603 EST197406 Rattus norvegicus cDNA, 3' end /clone=RPLAC48 /clone_end=3 /gb=AA893603 /gi=3020482 /ug=Rn.14813 /len=511
AA8936 03	6055	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		EST (not recognized)	rc_AA893603 EST197406 Rattus norvegicus cDNA, 3' end /clone=RPLAC48 /clone_end=3 /gb=AA893603 /gi=3020482 /ug=Rn.14813 /len=511
AA8936 12	6056	AAC97 475	6057	XM_03440 3		XP_034 403	86	Intersed-in-EH binding protein lbp1	rc_AA893612 EST197415 Rattus norvegicus cDNA, 3' end /clone=RPLAC57 /clone_end=3 /gb=AA893612 /gi=3020491 /ug=Rn.14814 /len=265
AA8936 12	6058	AAC97 475	6059	XM_03440 3		XP_034 403	86	Intersed-in-EH binding protein lbp1	rc_AA893612 EST197415 Rattus norvegicus cDNA, 3' end /clone=RPLAC57 /clone_end=3 /gb=AA893612 /gi=3020491 /ug=Rn.14814 /len=265
AA8936 21	6060	BAB200 95	6061	NM_0204 10	6062	Q9HD20	89.66	Mus musculus catp mRNA for cation- transporting atpase	rc_AA893621 EST197424 Rattus norvegicus cDNA, 3' end /clone=RPLAC88 /clone_end=3 /gb=AA893621 /gi=3020500 /ug=Rn.3697 /len=607
AA8936 41	6064	Q9QXQ 7	6065	AL390088	6066	P41221	89.05	ESTs, Highly similar to WN5A_RAT WNT-5A PROTEIN PRECURSOR [R.norvegicus]	rc_AA893641 EST197444 Rattus norvegicus cDNA, 3' end /clone=RPLAC90 /clone_end=3 /gb=AA893641 /gi=3020520 /ug=Rn.3699 /len=508

Table 2.

AA8936 41	6068	Q9QXQ 7	6069	AL390088	6070	P41221	6071	89.05	EST's, Highly similar to WN5A_RAT WNT-5A PROTEIN PRECURSOR [R.norvegicus]		rc_AA893661 EST197444 Rattus norvegicus cDNA, 3' end /clone=RPLAC90 /clone_end=3 /gb=AA893641 /gi=3020520 /ug=Rn.3699 /len=508
AA8936 62	6072	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA893662 EST197465 Rattus norvegicus cDNA, 3' end /clone=RPLA116 /clone_end=3 /gb=AA893662 /gi=3020541 /ug=Rn.14817 /len=457
AA8936 63	6073	NP_033 209	6074	AA833803	6075	NP_005 659	6076	84.35	slalyitransfere se 8	NM_00918 3	rc_AA893663 EST197466 Rattus norvegicus cDNA, 3' end /clone=RPLA118 /clone_end=3 /gb=AA893663 /gi=3020542 /ug=Rn.13170 /len=520
AA8936 64	6077	No Rat Protein Found.		D38521	6078	No Human Protein Found.		90.91	Homo sapiens BAC clone RP11-334F17 from 2		rc_AA893664 EST197467 Rattus norvegicus cDNA, 3' end /clone=RPLA119 /clone_end=3 /gb=AA893664 /gi=3020543 /ug=Rn.14818 /len=409
AA8936 67	6079	AAK697 54	6080	BC007235	6081	AF3785 24	6082	92.26	Mus musculus nin283 mRNA	AF378525	rc_AA893667 EST197470 Rattus norvegicus cDNA, 3' end /clone=RPLA123 /clone_end=3 /gb=AA893667 /gi=3020546 /ug=Rn.4237 /len=485
AA8936 67	6083	AAK697 54	6084	BC007235	6085	AF3785 24	6086	92.26	Mus musculus nin283 mRNA	AF378525	rc_AA893667 EST197470 Rattus norvegicus cDNA, 3' end /clone=RPLA123 /clone_end=3 /gb=AA893667 /gi=3020546 /ug=Rn.4237 /len=485
AA8936 67	6087	AAK697 54	6088	BC007235	6089	AF3785 24	6090	92.26	Mus musculus nin283 mRNA	AF378525	rc_AA893667 EST197470 Rattus norvegicus cDNA, 3' end /clone=RPLA123 /clone_end=3 /gb=AA893667 /gi=3020546 /ug=Rn.4237 /len=485
AA8936 67	6091	AAK697 54	6092	BC007235	6093	AF3785 24	6094	92.26	Mus musculus nin283 mRNA	AF378525	rc_AA893667 EST197470 Rattus norvegicus cDNA, 3' end /clone=RPLA123 /clone_end=3 /gb=AA893667 /gi=3020546 /ug=Rn.4237 /len=485
AA8936 67	6095	AAK697 54	6096	BC007235	6097	AF3785 24	6098	92.26	Mus musculus nin283 mRNA	AF378525	rc_AA893667 EST197470 Rattus norvegicus cDNA, 3' end /clone=RPLA123 /clone_end=3 /gb=AA893667 /gi=3020546 /ug=Rn.4237 /len=485

Table 2.

AA8936 67	6099	AAK697 54	6100	BC007235	6101	AF3785 24	6102	92.26	Mus musculus nln283 mRNA	AF378525	rc_AA893667 EST197470 Rattus norvegicus cDNA, 3' end /clone=RPLAI23 /clone_end=3 /gb=AA893667 /gi=3020546 /ug=Rn.4237 /len=485
AA8936 70	6103	No Rat Protein Found.	6105	No human homolog found.	6106	No Human Protein Found.	6107	87.11	EST (not recognized)		rc_AA893670 EST197473 Rattus norvegicus cDNA, 3' end /clone=RPLAI26 /clone_end=3 /gb=AA893670 /gi=3020549 /ug=Rn.22763 /len=461
AA8936 83	6104	NP_081 283	6105	NM_0162 07	6106	Q8UKF6	6107	87.11	Mus musculus cleavage and polyadenylation specificity factor 3	NM_01881 3	rc_AA893683 EST197488 Rattus norvegicus cDNA, 3' end /clone=RPLAI40 /clone_end=3 /gb=AA893683 /gi=3020562 /ug=Rn.14820 /len=497
AA8936 90	6108	NP_082 308	6109	AA286860	6110	AAH106 65	6111	87.5	Mus musculus neuronal protein 15.6 (Np15.6- pending)	NM_01843 5	rc_AA893690 EST197493 Rattus norvegicus cDNA, 3' end /clone=RPLAI47 /clone_end=3 /gb=AA893690 /gi=3020569 /ug=Rn.3377 /len=492
AA8937 17	6112	AAH10 715	6113	AL136794	6114	CAB667 28	6115		Mus musculus, Rac GTPase- activating protein 1 (LOW HOMOLOGY)	BC010715	rc_AA893717 EST197520 Rattus norvegicus cDNA, 3' end /clone=RPLAI79 /clone_end=3 /gb=AA893717 /gi=3020596 /ug=Rn.19950 /len=472
AA8937 33	6116	S40148		M34480	6117	P08514	6118	86.86	ESTs, Weakly similar to S40148 Integrin alpha- 7A chain - rat [R.norvegicus]		rc_AA893733 EST197538 Rattus norvegicus cDNA, 3' end /clone=RPLAK02 /clone_end=3 /gb=AA893733 /gi=3020612 /ug=Rn.14827 /len=400

Table 2.

AA8937 42	6119	NP_038 844	6120	AI377110	6121	No Human Protein Found.		95.28	Mus musculus Hoxa1 regulated gene (Hatr- pending), mRNA	NM_01391 6	rc_AA893742 EST197545 Rattus norvegicus cDNA, 3' end /clone=RPLAK13 /clone_end=3 /gb=AA893742 /gi=3020621 /ug=Rn.13504 /len=455
AA8937 43	6122	No Rat Protein Found.		A1092788	6123	P04541	6124	89.32	EST (not recognised)		rc_AA893743 EST197546 Rattus norvegicus cDNA, 3' end /clone=RPLAK14 /clone_end=3 /gb=AA893743 /gi=3020622 /ug=Rn.8002 /len=520
AA8937 43	6125	No Rat Protein Found.		A1092788	6126	P04541	6127	89.32	EST (not recognised)		rc_AA893743 EST197546 Rattus norvegicus cDNA, 3' end /clone=RPLAK14 /clone_end=3 /gb=AA893743 /gi=3020622 /ug=Rn.8002 /len=520
AA8938 21	6128	BAB261 37	6129	XM_01584 6	6130	XP_015 846	6131		Hypothetical proteins		rc_AA893821 EST197624 Rattus norvegicus cDNA, 3' end /clone=RPLAM01 /clone_end=3 /gb=AA893821 /gi=3020700 /ug=Rn.12544 /len=422
AA8938 70	6132	No Rat Protein Found.		M11167	6133	No Human Protein Found.			28S ribosomal RNA gene		rc_AA893870 EST197673 Rattus norvegicus cDNA, 3' end /clone=RPLAM86 /clone_end=3 /gb=AA893870 /gi=3020749 /ug=Rn.11229 /len=417
AA8938 70	6134	No Rat Protein Found.		M11167	6135	No Human Protein Found.			28S ribosomal RNA gene	V01270	rc_AA893870 EST197673 Rattus norvegicus cDNA, 3' end /clone=RPLAM86 /clone_end=3 /gb=AA893870 /gi=3020749 /ug=Rn.11229 /len=417
AA8938 70	6136	No Rat Protein Found.		M11167	6137	No Human Protein Found.			28S ribosomal RNA gene		rc_AA893870 EST197673 Rattus norvegicus cDNA, 3' end /clone=RPLAM86 /clone_end=3 /gb=AA893870 /gi=3020749 /ug=Rn.11229 /len=417
AA8938 70	6138	No Rat Protein Found.		M11167	6139	No Human Protein Found.			28S ribosomal RNA gene	V01270	rc_AA893870 EST197673 Rattus norvegicus cDNA, 3' end /clone=RPLAM86 /clone_end=3 /gb=AA893870 /gi=3020749 /ug=Rn.11229 /len=417

Table 2.

AA8938 71	6140	No Rat Protein Found.	6142	No human homolog found.	6143	Q8Y2Y9	6144	EST(not recognised)		rc_AA893871 EST197674 Rattus norvegicus cDNA, 3 end /clone=RPLAM87 /clone_end=3 /gb=AA893871 /gi=3020750 /ug=Rn.8155 /len=510
AA8939 24	6141	AAF739 84	6142	BC013946	6143		6144	Mus musculus erythroid transcription factor FKLFF-2	AF251796	rc_AA893924 EST197727 Rattus norvegicus cDNA, 3 end /clone=RPLAN55 /clone_end=3 /gb=AA893924 /gi=3020803 /ug=Rn.7664 /len=428
AA8939 39	6145	NP_033 195	6146	XM_04448 8		XP_044 488		Mus musculus split hand/foot deleted gene 1	NM_00916 9	rc_AA893939 EST197742 Rattus norvegicus cDNA, 3 end /clone=RPLAN70 /clone_end=3 /gb=AA893939 /gi=3020818 /ug=Rn.8472 /len=416
AA8939 46	6147	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		EST (not recognized)		rc_AA893946 EST197749 Rattus norvegicus cDNA, 3 end /clone=RPLAN77 /clone_end=3 /gb=AA893946 /gi=3020825 /ug=Rn.4227 /len=421
AA8939 46	6148	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		EST (not recognized)		rc_AA893946 EST197749 Rattus norvegicus cDNA, 3 end /clone=RPLAN77 /clone_end=3 /gb=AA893946 /gi=3020825 /ug=Rn.4227 /len=421
AA8939 70	6149	No Rat Protein Found.		AK024327	6150	No Human Protein Found.		Homo sapiens cDNA FLJ14265 fis, clone PLACE10022 56	92.88	rc_AA893970 EST197773 Rattus norvegicus cDNA, 3 end /clone=RPLAO08 /clone_end=3 /gb=AA893970 /gi=3020849 /ug=Rn.12958 /len=520
AA8939 80	6151	No Rat Protein Found.		AL050155	6152	No Human Protein Found.		EST(not recognised)	90.59	rc_AA893980 EST197783 Rattus norvegicus cDNA, 3 end /clone=RPLAO19 /clone_end=3 /gb=AA893980 /gi=3020859 /ug=Rn.7498 /len=484



Table 2.

AA8939 80	6153	No Rat Protein Found.	AL050155	6154	No Human Protein Found.	90.59	EST (not recognised)	rc_AA893980 EST197783 Rattus norvegicus cDNA, 3' end /clone=RPLAO19 /clone_end=3 /gb=AA893980 /gi=3020859 /ug=Rn.7498 /len=484
AA8939 80	6155	No Rat Protein Found.	AL050155	6156	No Human Protein Found.	90.59	EST(not recognised)	rc_AA893980 EST197783 Rattus norvegicus cDNA, 3' end /clone=RPLAO19 /clone_end=3 /gb=AA893980 /gi=3020859 /ug=Rn.7498 /len=484
AA8939 80	6157	No Rat Protein Found.	AL050155	6158	No Human Protein Found.	90.59	EST (not recognised)	rc_AA893980 EST197783 Rattus norvegicus cDNA, 3' end /clone=RPLAO19 /clone_end=3 /gb=AA893980 /gi=3020859 /ug=Rn.7498 /len=484
AA8939 84	6159	No Rat Protein Found.	NIM_030778	6160	XP_029757	93.8	Homo Sapiens hypothetical protein PRO1331	rc_AA893984 EST197787 Rattus norvegicus cDNA, 3' end /clone=RPLAO23 /clone_end=3 /gb=AA893984 /gi=3020863 /ug=Rn.21426 /len=443
AA8940 29	6162	No Rat Protein Found.	No human homolog found.	No human homolog found.	No Human Protein Found.	EST(not recognised)	rc_AA894029 EST197832 Rattus norvegicus cDNA, 3' end /clone=RPLAO74 /clone_end=3 /gb=AA894029 /gi=3020908 /ug=Rn.13512 /len=498	
AA8940 84	6163	No Rat Protein Found.	No human homolog found.	No human homolog found.	No Human Protein Found.	EST(not recognised)	rc_AA894084 EST197887 Rattus norvegicus cDNA, 3' end /clone=RSPAQ55 /clone_end=3 /gb=AA894084 /gi=3020963 /ug=Rn.14852 /len=621	
AA8940 88	6164	No Rat Protein Found.	No human homolog found.	No human homolog found.	No Human Protein Found.	EST (not recognized)	rc_AA894088 EST197891 Rattus norvegicus cDNA, 3' end /clone=RSPAQ62 /clone_end=3 /gb=AA894088 /gi=3020967 /ug=Rn.14853 /len=647	
AA8940 99	6165	BAB31873	6166	6167	Q99538	93.75	Vacuolar sorting protein 4	rc_AA894089 EST197902 Rattus norvegicus cDNA, 3' end /clone=RSPAQ77 /clone_end=3 /gb=AA894089 /gi=3020978 /ug=Rn.12477 /len=580

Table 2.

AA8941 04	6169	BAB820 16	6170	XM_02760 6	XP_027 606			Mus musculus peas mRNA for InterCellular mediator	AB053485	rc_AA894104 EST197907 Rattus norvegicus cDNA, 3' end /clone=RSPAQ82 /clone_end=3 /gb=AA894104 /gi=3020983 /ug=Rn.3260 /len=350
AA8941 19	6171	No Rat Protein Found.	6175	AF070815	6172	Q8UN86	6173	Ras-GTPase activating protein SH3 domain- binding protein 2		rc_AA894119 EST197922 Rattus norvegicus cDNA, 3' end /clone=RSPAR07 /clone_end=3 /gb=AA894119 /gi=3020998 /ug=Rn.22084 /len=362
AA8941 30	6174	AAD22 174	6175	U78095	6176	O43291	6177	hepatocyte growth factor activator inhibitor type 2	AF098020	rc_AA894130 EST197933 Rattus norvegicus cDNA, 3' end /clone=RSPAR25 /clone_end=3 /gb=AA894130 /gi=3021009 /ug=Rn.3857 /len=494
AA8941 31	6178	No Rat Protein Found.		U78082	6179	No Human Protein Found.	6180	Mus musculus adult male cerebellum cDNA, RIKEN		rc_AA894131 EST197934 Rattus norvegicus cDNA, 3' end /clone=RSPAR28 /clone_end=3 /gb=AA894131 /gi=3021010 /ug=Rn.12960 /len=455
AA8941 48	6181	AAA407 48	6182	M14542	6183	P06727	6184	Rat apolipoprotein A-IV gene (NB double cDNA with ribosomal)	M13508	rc_AA894148 EST197951 Rattus norvegicus cDNA, 3' end /clone=RSPAR57 /clone_end=3 /gb=AA894148 /gi=3021027 /ug=Rn.15739 /len=447
AA8941 60	6185	AAK770 01	6186	U78971	6187	NP_006 550	6188	src associated in mitosis SAM68	AF393783	rc_AA894160 EST197963 Rattus norvegicus cDNA, 3' end /clone=RSPAR74 /clone_end=3 /gb=AA894160 /gi=3021039 /ug=Rn.22762 /len=441
AA8941 74	6189	AAA411 30	6190	BE536809	6191	P13804	6192	Rat electron transfer flavoprotein (ETF) alpha- subunit DNA, 3' end		rc_AA894174 EST197977 Rattus norvegicus cDNA, 3' end /clone=RSPAS05 /clone_end=3 /gb=AA894174 /gi=3021053 /ug=Rn.1158 /len=639

Table 2.

AA894174	6193	AAA411 30	6194	BE535809	6195	P13804	6196	97.06	Rat electron transfer flavoprotein (ETF) alpha- subunit DNA, 3' end	rc_AA894174 EST197877 Rattus norvegicus cDNA, 3' end /clone=RSPAS05 /clone_end=3 /gb=AA894174 /gi=3021053 /ug=Rn.1158 /len=639
AA894174	6197	AAA411 30	6198	BE535809	6199	P13804	6200	97.06	Rat electron transfer flavoprotein (ETF) alpha- subunit DNA, 3' end	rc_AA894174 EST197877 Rattus norvegicus cDNA, 3' end /clone=RSPAS05 /clone_end=3 /gb=AA894174 /gi=3021053 /ug=Rn.1158 /len=639
AA894174	6201	AAA411 30	6202	BE535809	6203	P13804	6204	97.06	Rat electron transfer flavoprotein (ETF) alpha- subunit DNA, 3' end	rc_AA894174 EST197877 Rattus norvegicus cDNA, 3' end /clone=RSPAS05 /clone_end=3 /gb=AA894174 /gi=3021053 /ug=Rn.1158 /len=639
AA894174	6205	AAA411 30	6208	BE535809	6207	P13804	6208	97.06	Rat electron transfer flavoprotein (ETF) alpha- subunit DNA, 3' end	rc_AA894174 EST197877 Rattus norvegicus cDNA, 3' end /clone=RSPAS05 /clone_end=3 /gb=AA894174 /gi=3021053 /ug=Rn.1158 /len=639
AA894174	6208	AAA411 30	6210	BE535809	6211	P13804	6212	97.06	Rat electron transfer flavoprotein (ETF) alpha- subunit DNA, 3' end	rc_AA894174 EST197877 Rattus norvegicus cDNA, 3' end /clone=RSPAS05 /clone_end=3 /gb=AA894174 /gi=3021053 /ug=Rn.1158 /len=639
AA894189	6213	No Rat Protein Found.		AL137665	6214	Q96RT7	6215	86.38	EST (not recognized)	rc_AA894189 EST197992 Rattus norvegicus cDNA, 3' end /clone=RSPAS35 /clone_end=3 /gb=AA894189 /gi=3021068 /ug=Rn.3748 /len=644
AA894193	6216	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)	rc_AA894193 EST197998 Rattus norvegicus cDNA, 3' end /clone=RSPAS42 /clone_end=3 /gb=AA894193 /gi=3021072 /ug=Rn.11542 /len=584

Table 2.

AA894189	6217	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)	ESTs, Moderately similar to UBPL MOUSE UBIQUITIN CARBOXYL-TERMINAL HYDROLASE 18 (UBIQUITIN THIOLESTERASE 18) (UBIQUITIN-SPECIFIC PROCESSING PROTEASE 18) (DEUBIQUITINATING ENZYME 18) (43 KDA UBIQUITIN-SPECIFIC PROTEASE) [M.musculus]	AF202453	rc_AA894189 EST198002 Rattus norvegicus cDNA, 3' end /clone=RSPAS58 /clone_end=3 /gb=AA894189 /gi=3021078 /ug=Rn.22765 /len=555
AA894207	6218	AAF17574	AJ008470	6220	6221	92.65	AF202453	rc_AA894207 EST198010 Rattus norvegicus cDNA, 3' end /clone=RSPAS77 /clone_end=3 /gb=AA894207 /gi=3021088 /ug=Rn.806 /len=630

Table 2.

AA8842 07	6222	AAF175 74	6223	AJ008470	6224	O75718	6225	92.65	ESTs, Moderately similar to UBPL_MOUSE UBIQUITIN CARBOXYL- TERMINAL HYDROLASE 18 (UBIQUITIN THIOLESTER ASE 18) (UBIQUITIN- SPECIFIC PROCESSIN G PROTEASE 18) (DEUBIQUITI NATING ENZYME 18) (43 KDA UBIQUITIN- SPECIFIC PROTEASE) [M.musculus]	AF202453	rc_AA894207 EST198010 Rattus norvegicus cDNA, 3' end /clone=RSPAS77 /clone_end=3 /gb=AA894207 /gi=3021088 /ug=Rn.806 /len=630
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Table 2.

AA8842 07	6228	AAF175 74	6227	AJ006470	6228	075718	6229	92.65	ESTs, Moderately similar to UBP1_MOUSE UBIQUITIN CARBOXYL- TERMINAL HYDROLASE 18 (UBIQUITIN THIOLESTER ASE 18) (UBIQUITIN- SPECIFIC PROTEIN G PROTEASE 18) (DEUBIQUITI NATING ENZYME 18) (43 KDA UBIQUITIN- SPECIFIC PROTEASE) [M.musculus]	AF202453	tc_AA894207 EST198010 Rattus norvegicus cDNA, 3' end /clone=RSPAS77 /clone_end=3 /gb=AA894207 /gi=3021086 /ug=Rn.808 /len=630
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Table 2.

AA8942 07	6230	AAF175 74	6231	AJ006470	6232	OT5718	6233	92.65	ESTs, Moderately similar to UBPL_MOUSE UBIQUITIN CARBOXYL- TERMINAL HYDROLASE 18 (UBIQUITIN THIOLESTER ASE 18) (UBIQUITIN- SPECIFIC PROCESSIN G PROTEASE 18) (DEUBIQUITIN NATING ENZYME 18) (43 KDA UBIQUITIN- SPECIFIC PROTEASE) [M.musculus]	AF202453	rc_AA894207 EST198010 Rattus norvegicus cDNA, 3' end /clone=RSPAS77 /clone_end=3 /gb=AA894207 /gi=3021088 /ug=Rn.808 /len=630
AA8942 34	6234	No Rat Protein Found.		BG715448	6235	No Human Protein Found.		92.62	Mus musculus 10 days embryo cDNA, RIKEN		rc_AA894234 EST198037 Rattus norvegicus cDNA, 3' end /clone=RSPAT45 /clone_end=3 /gb=AA894234 /gi=3021113 /ug=Rn.22767 /len=461
AA8942 58	6236	P47986	6237	U39318	6238	P47986	6239	97.74	expressed in high- metastatic cells (ehm gene)	NM_019427	rc_AA894258 EST198061 Rattus norvegicus cDNA, 3' end /clone=RSPAU08 /clone_end=3 /gb=AA894258 /gi=3021137 /ug=Rn.6130 /len=672
											Ubiquitin- conjugating enzyme E2-17 kDa 3 (EC 6.3.2.19) (Ubiquitin- protein ligase) (Ubiquitin carrier protein) (E2(17)KB 3).

Table 2.

AA8942 73	6240	O08557	6241	AK001459	6242	No Human Protein Found.	6243	99.01	Rat endogenous retroviral sequence, 5' and 3' LTR	D80005	rc_AA894273 EST198076 Rattus norvegicus cDNA, 3 end /clone=RSPAU42 /clone_end=3 /gb=AA894273 /gi=3021152 /ug=Rn.6477 /len=573	"NG-NG- dimethylarginine dimethylarginoh ydrolase 1 (EC 3.5.3.18)(Dimet hylargininase 1) (Dimethylarginin e dimethylarginoh ydrolase 1)(DDAH1)."
AA8942 77	6244	BAB256 13	6245	No human homolog found.	No Human Protein Found.	No Human Protein Found.		RIKEN full- length cDNA (mouse)	AK008338	rc_AA894277 EST198080 Rattus norvegicus cDNA, 3 end /clone=RSPAU53 /clone_end=3 /gb=AA894277 /gi=3021156 /ug=Rn.3681 /len=572		
AA8942 77	6246	BAB256 13	6247	No human homolog found.	No Human Protein Found.	No Human Protein Found.		RIKEN full- length cDNA (mouse)	AK008338	rc_AA894277 EST198080 Rattus norvegicus cDNA, 3 end /clone=RSPAU53 /clone_end=3 /gb=AA894277 /gi=3021156 /ug=Rn.3681 /len=572		
AA8942 82	6248	No Rat Protein Found.		No human homolog found.	No Human Protein Found.	No Human Protein Found.		EST(not recognised)		rc_AA894282 EST198085 Rattus norvegicus cDNA, 3 end /clone=RSPAU66 /clone_end=3 /gb=AA894282 /gi=3021161 /ug=Rn.3985 /len=552		
AA8943 04	6249	No Rat Protein Found.		M80899	6250	Q09666	6251	83.44	Mus musculus 18 days embryo cDNA, RIKEN		rc_AA894304 EST198107 Rattus norvegicus cDNA, 3 end /clone=RSPAW33 /clone_end=3 /gb=AA894304 /gi=3021183 /ug=Rn.90 /len=530	
AA8943 05	6252	No Rat Protein Found.		AI221059	6253	No Human Protein Found.		86	Mus musculus 13 days embryo head cDNA, RIKEN		rc_AA894305 EST198108 Rattus norvegicus cDNA, 3 end /clone=RSPAW34 /clone_end=3 /gb=AA894305 /gi=3021184 /ug=Rn.8173 /len=621	



Table 2.

AA8943 18	6254	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)	rc_AA894316 EST198119 Rattus norvegicus cDNA, 3 end /clone=RSPAW50 /clone_end=3 /gb=AA894316 /gi=3021195 /ug=Rn.22823 /len=478	
AA8943 18	6255	No Rat Protein Found.	AB040972	No Human Protein Found.	95.57 Mouse BAC ClbCJ7 219m7, genomic sequence	rc_AA894318 EST198121 Rattus norvegicus cDNA, 3 end /clone=RSPAW53 /clone_end=3 /gb=AA894318 /gi=3021197 /ug=Rn.4127 /len=569	
AA8943 30	6257	P15791	6256 AF071569	6259 Q13557	6260 92.9 Ca++/calmodu lin-dependent protein kinase II, delta subunit	rc_AA894330 EST198133 Rattus norvegicus cDNA, 3 end /clone=RSPAW76 /clone_end=3 /gb=AA894330 /gi=3021209 /ug=Rn.122 /len=501	Calcium/calmod ulin-dependent protein kinase type II delta chain (EC2.7.1.123) (CaM-kinase II delta chain) (CaM kinase II delta subunit)(CaMK- II delta subunit).
AA8943 40	6261	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)	rc_AA894340 EST198143 Rattus norvegicus cDNA, 3 end /clone=RSPAZ08 /clone_end=3 /gb=AA894340 /gi=3021219 /ug=Rn.7359 /len=580	
AA8943 45	6262	CAB51 573	6263 L37386	6264 Q15121	6265 92.56 astrocytic phosphoprotei n	rc_AA894345 EST198148 Rattus norvegicus cDNA, 3 end /clone=RSPAZ21 /clone_end=3 /gb=AA894345 /gi=3021224 /ug=Rn.13530 /len=510	
AA8983 20	6266	No Rat Protein Found.	XM_02831 4	6267 XP_029 314	6268 Homo sapiens NADH dehydrogenas e	rc_AA898320 UI-R-EO-cx-b-11-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cx-b-11-O-UI /clone_end=3 /gb=AA898320 /gi=3034674 /ug=Rn.13584 /len=428	

Table 2.

AA9001 89	6269	No Rat Protein Found.	AF035840	6270	Q95139	6271	88.91	Rattus norvegicus DD6C4-4 mRNA, partial sequence (LOW HOMOLOGY)	AA900199	rc_AA900199 UI-R-A0-bh-h-06-O-UI.s4 Rattus norvegicus cDNA, 3 end /clone=UI-R- A0-bh-h-06-O-UI /clone_end=3 /gb=AA900199 /gi=3035553 /ug=Rn.22932 /len=375	
AA9004 13	6272	AAH05 796	6273 AW50076 0	6274	137287		91.94	ESTs, Highly similar to DYR MOUSE DIHYDROFOL ATE REDUCTASE [M.musculus]	BC005796	rc_AA900413 UI-R-EO-dl-e-12-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-EO-dl-e- 12-O-UI /clone_end=3 /gb=AA900413 /gi=3035767 /ug=Rn.15056 /len=448	
AA9004 76	6275	AAK306 21	6276 U65093	6277	Q98967	6278	98.64	transcription factor MRG1	AF361476	rc_AA900476 UI-R-EO-bw-c-12-O-UI.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-bw-c-12-O-UI /clone_end=3 /gb=AA900476 /gi=3035830 /ug=Rn.221 /len=463	
AA9004 76	6279	AAK306 21	6280 U65093	6281	Q98967	6282	98.64	transcription factor MRG1	AF361476	rc_AA900476 UI-R-EO-bw-c-12-O-UI.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-bw-c-12-O-UI /clone_end=3 /gb=AA900476 /gi=3035830 /ug=Rn.221 /len=463	
AA9005 03	6283	Q83722	6284 NM_0002 14	6285	P78504	6286	96	Jagged 1	NM_01914	rc_AA900503 UI-R-EO-dl-b-05-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-EO-dl-b- 05-O-UI /clone_end=3 /gb=AA900503 /gi=3035857 /ug=Rn.11254 /len=485	Type I membrane protein.
AA9005 82	6287	P06238	6288 XM_00692 5	6289	XP_006 925	6290	71	Alpha-2- macroglobulin	NM_01248	rc_AA900582 UI-R-EO-dl-b-10-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-dl-b-10-O-UI /clone_end=3 /gb=AA900582 /gi=3035836 /ug=Rn.760 /len=495	Jagged 1 precursor (Jagged1).
										Alpha-2- macroglobulin precursor (Alpha-2-M).	

Table 2.

AA9008 48	6291	P15800	6292	X79683	6293	P55268	6294	81	laminin chain beta 2	NM_01297 4	rc_AA900848 UI-R-EO-dk-a-04-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-dk-a-04-0-UI /clone_end=3 /gb=AA900848 /gi=3036202 /ug=Rn.850 /len=504	Extracellular.	Laminin beta-2 chain precursor (S-laminin) (Laminin chain B3).
AA9240 84	6295	P35213	6296	No human homolog found.		No Human Protein Found.		EST(not recognised)		rc_AA924084 UI-R-A1-du-g-05-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- A1-du-g-05-0-UI /clone_end=3 /gb=AA924084 /gi=3071220 /ug=Rn.8653 /len=440	Cytoplasmic.	14-3-3 protein beta/alpha (Protein kinase C inhibitor protein-1)(KClP- 1) (Prepro-neve growth factor RNH-1).	
AA9247 72	6297	P37361	6298	No human homolog found.		No Human Protein Found.		Growth inhibitory factor=metallo thionein homolog	SS5838	rc_AA924772 UI-R-A1-eb-f-02-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A1-eb-f- 02-0-UI /clone_end=3 /gb=AA924772 /gi=3071908 /ug=Rn.11325 /len=372		Metallothionein- III (MT-III) (Growth inhibitory factor) (GIF).	
AA9249 09	6289	P25094	6300	M94048	6301	Q01453	6302	91.3	Peripheral myelin protein homolog	rc_AA924909 UI-R-A1-eg-b-11-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- A1-eg-b-11-0-UI /clone_end=3 /gb=AA924909 /gi=3072045 /ug=Rn.1476 /len=557	Integral membrane protein.	Peripheral myelin protein 22 (PMP-22) (CD25 protein) (SR13 myelinprotein).	
AA9252 46	6303	O35186	6304	X82153	6305	PA3235	6306	87.8	Cathepsin K	NM_03156 0	rc_AA925246 UI-R-A1-eh-h-06-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- A1-eh-h-06-0-UI /clone_end=3 /gb=AA925246 /gi=3072382 /ug=Rn.5598 /len=513		Cathepsin K precursor (EC 3.4.22.38).
AA9252 48	6307	CAA70 384	6308	M91556	6309	Q01118	6310	87.86	sodium channel.	Y09164	rc_AA925248 UI-R-A1-eh-h-08-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- A1-eh-h-08-0-UI /clone_end=3 /gb=AA925248 /gi=3072384 /ug=Rn.6032 /len=501		

Table 2.

AA925300	6311	AAB03535	6312	XM_044378	XP_044378	96	Mus musculus MEK kinase 3	U43187	rc_AA925300 UI-R-A1-ek-e-06-Q-UI.s1 UI-R-A1 Rattus norvegicus cDNA clone UI-R-A1-ek-e-06-Q-UI 3 similar to gll1223901 [gb]U43187 [MMU43187 Mus musculus MEK kinase 3, mRNA, partial cds, mRNA sequence [Rattus norvegicus]
AA925473	6313	AAF15538	6314	BG180991	XP_032919	98.06	cell division cycle 42	AF205635	rc_AA925473 UI-R-A1-ep-e-02-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A1-ep-e-02-Q-UI /clone_end=3 /gb=AA925473 /gi=3072608 /ug=Rn.8112 /len=519
AA925473	6316	AAF15538	6317	BG180991	XP_032919	99.06	cell division cycle 42	AF205635	rc_AA925473 UI-R-A1-ep-e-02-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A1-ep-e-02-Q-UI /clone_end=3 /gb=AA925473 /gi=3072608 /ug=Rn.8112 /len=519
AA925508	6319	P43425	6320	BC014466	O60262	87.25	Guanine nucleotide binding protein (G protein), gamma 7 subunit		rc_AA925508 UI-R-A1-ep-d-03-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A1-ep-d-03-Q-UI /clone_end=3 /gb=AA925508 /gi=3072642 /ug=Rn.11335 /len=415
AA925752	6323	Q07969	6324	BC008406	P16671	84.46	CD36 antigen	NM_031561	rc_AA925752 UI-R-A1-ep-f-07-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A1-ep-f-07-Q-UI /clone_end=3 /gb=AA925752 /gi=3072868 /ug=Rn.3790 /len=484
									Integral membrane protein.
									Platelet glycoprotein IV (GPIV) (GPIIb) (CD36 antigen) (PAS IV) (PAS-4 protein) (Fatty acid transport protein) (Fatty acid translocase) (Adipocyte membrane protein).

Table 2.

AA8257	6327	P30009	6328	AU141403	6329	P50458	6330	97.14	Myristoylated alanine-rich protein kinase C substrate	rc_AA825762 UI-R-A1-ep-g-08-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- A1-ep-g-08-Q-UI /clone_end=3 /gb=AA825762 /gi=3072898 /ug=Rn.8560 /len=384	Myristoylated alanine-rich C- kinase substrate (MARCKS).
AA9257	6331	P30009	6332	AU141403	6333	P50458	6334	97.14	Myristoylated alanine-rich protein kinase C substrate	rc_AA825762 UI-R-A1-ep-g-08-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- A1-ep-g-08-Q-UI /clone_end=3 /gb=AA825762 /gi=3072898 /ug=Rn.8560 /len=384	Myristoylated alanine-rich C- kinase substrate (MARCKS).
AA9261	6335	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)	rc_AA826137 UI-R-A1-ep-g-04-Q-UI.s1 UI-R- A1 Rattus norvegicus cDNA clone UI-R-A1-ep- g-04-Q-UI 3 similar to g 12317645 b D55636 D55636 Homo sapiens mRNA for smallest subunit of ubiquinol-cytochrome c reductase, complete cde, mRNA sequence [Rattus norv	
AA8261	6336	P04762	6337	X04076	6338	P04040	6339	86.48	Catalase	nm_01252 rc_AA826148 UI-R-A1-ep-h-04-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- A1-ep-h-04-Q-UI /clone_end=3 /gb=AA826148 /gi=3073285 /ug=Rn.3001 /len=449	Peroxisomal. Catalase (EC 1.11.1.6).
AA8262	6340	P19814	6341	BC008461	6342	O43493	6343	82.29	Rat mRNA for trans-Golgi network integral membrane protein TGN38	rc_AA826242 UI-R-A1-ep-d-09-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- A1-ep-d-09-Q-UI /clone_end=3 /gb=AA826242 /gi=3073378 /ug=Rn.11348 /len=394	TRANS- GOLGI NETWORK Trans-golgi network integral membrane protein TGN38 precursor.
AA8331	6344	NP_067 312	6345	XM_04239		XP_042 395			Mus musculus superkiller viralicidic activity 2-like	nm_02133 rc_AA833158 UI-R-E0-bp-g-09-Q-UI.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-bp-g-09-Q-UI /clone_end=3 /gb=AA833158 /gi=3087512 /ug=Rn.7122 /len=383	

Table 2.

AA9435 55	6346	P50745	6347	NM_0054 75	6348	Q9UQA 2	6349	71	Linker of T- cell receptor pathways (Lrk)	NM_03162 1	rc_AA943555 EST198054 Rattus norvegicus cDNA, 3' end /clone=RBAL44 /clone_end=3 /gb=AA943555 /gi=3103471 /ug=Rn.11228 /len=435	Lymphocyte specific adapter protein Lrk (Signal transduction proteinLrk) (Lymphocyte adapter protein)
AA9436 77	6350	g17633 06		AK054981	6351	g243200 0	6352	88.82	Rattus norvegicus Munc13-3 mRNA, complete cds	rc_AA943677 EST199176 Rattus norvegicus cDNA, 3' end /clone=RBAN48 /clone_end=3 /gb=AA943677 /gi=3103593 /ug=Rn.11278 /len=520		
AA9441 77	6353	P07155	6354	AV701053	6355	P09429	6356	100	High mobility group 1 (Hmg1)	rc_AA944177 EST199676 Rattus norvegicus cDNA, 3' end /clone=REMAD31 /clone_end=3 /gb=AA944177 /gi=3104093 /ug=Rn.4121 /len=596	"NUCLEAR AND ALSO CYTOPLAS MIC. ASSOCIATE D WITH THE PLASMA MEMBRANE OF FILIPODIA IN PROCESS- GROWING CELLS, AND ALSO DEPOSITED INTO THE SUBSTRATE ATTACHED MATERIAL."	
AA9443 24	6357	P26438	6358	M57763	6359	P26438	6360	94.88	ADP- ribosylation factor 6	NM_02415 2	rc_AA944324 EST198823 Rattus norvegicus cDNA, 3' end /clone=REMAF41 /clone_end=3 /gb=AA944324 /gi=3104240 /ug=Rn.6893 /len=559	ADP- ribosylation factor 6.

Table 2.

AA9443 97	6361	NP_034 810	6362	BE786120	6363	CAA302 55	6364	96.85	Mus musculus heat shock protein, 86 kDa 1 (Hsp86- 1), mRNA	NM_01048 0	rc_AA944397 EST199898 Rattus norvegicus cDNA, 3' end /clone=REMAG54 /clone_end=3 /gb=AA944397 /gi=3104313 /ug=Rn.5916 /len=542	
AA9443 97	6365	NP_034 810	6366	BE786120	6367	CAA302 55	6368	96.85	Mus musculus heat shock protein, 86 kDa 1 (Hsp86- 1), mRNA	NM_01048 0	rc_AA944397 EST199898 Rattus norvegicus cDNA, 3' end /clone=REMAG54 /clone_end=3 /gb=AA944397 /gi=3104313 /ug=Rn.5916 /len=542	
AA9450 54	6369	P00173	6370	XM_00881 7		1803548 A		88	Cytochrome b5		rc_AA945054 EST200553 Rattus norvegicus cDNA, 3' end /clone=RLAF82 /clone_end=3 /gb=AA945054 /ug=Rn.1055 /len=565	MICROSOM AL MEMBRANE BOUND TO THE CYTOPLAS MIC SIDE OF THE ENDOPLAS MIC RETICULUM
AA9450 54	6371	P00173	6372	XM_04847 3		XP_048 473		88	Cytochrome b5	NM_02224 5	rc_AA945054 EST200553 Rattus norvegicus cDNA, 3' end /clone=RLAF82 /clone_end=3 /gb=AA945054 /ug=Rn.1055 /len=565	MICROSOM AL MEMBRANE BOUND TO THE CYTOPLAS MIC SIDE OF THE ENDOPLAS MIC RETICULUM

Table 2.

AA9455/83	6373	O70351	6374	BC008708	6375	Q98714	6376	87.5	Hydroxyacyl-Coenzyme A dehydrogenase, type II	rc_AA945583 EST201082 Rattus norvegicus cDNA, 3' end /clone=RLUAP30 /clone_end=3 /gb=AA945583 /ug=Rn.2700 /len=537	Mitochondrial	3-hydroxyacyl-CoA dehydrogenase type II (EC 1.1.1.35) (Type II HADH)(Endoplasmic reticulum-associated amyloid beta-peptide binding protein).
AA9455/83	6377	O70351	6378	BC008708	6379	Q99714	6380	87.5	Hydroxyacyl-Coenzyme A dehydrogenase, type II	rc_AA945583 EST201082 Rattus norvegicus cDNA, 3' end /clone=RLUAP30 /clone_end=3 /gb=AA945583 /ug=Rn.2700 /len=537	Mitochondrial	3-hydroxyacyl-CoA dehydrogenase type II (EC 1.1.1.35) (Type II HADH)(Endoplasmic reticulum-associated amyloid beta-peptide binding protein).
AA9457/04	6381	BAA95672	6382	XU_031259	XP_031259				Heat shock protein 40	rc_AA945704 EST201203 Rattus norvegicus cDNA, 3' end /clone=RLUAS15 /clone_end=3 /gb=AA945704 /gb=3105620 /ug=Rn.7886 /len=520		
AA9460/40	6383	P56391	6384	AL528776	6385	XP_049224		94.39	Cytochrome c oxidase subunit VIIb	rc_AA946040 EST201539 Rattus norvegicus cDNA, 3' end /clone=RLUBA46 /clone_end=3 /gb=AA946040 /ug=Rn.8009 /len=519		
AA9460/40	6386	P56391	6387	AL528775	6388	XP_049224		94.39	Cytochrome c oxidase subunit VIIb	rc_AA946040 EST201539 Rattus norvegicus cDNA, 3' end /clone=RLUBA46 /clone_end=3 /gb=AA946040 /ug=Rn.8009 /len=519		





Table 2.

AA955477	6404	CAA54183	6405	U09578	6406	AAH10407	6407	92.08	ESTs, Moderately similar to S78100 MAPK activated protein kinase (EC 2.7.1.-) 2-mouse (fragment) [M.musculus]	rc_AA955477 UI-R-A1-ex-f-01-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A1-ex-f-01-0-UI /clone_end=3 /gb=AA955477 /ug=Rn.8789 /len=394		
AA955808	6408	QB4620	6409	BC006990	6410	O00743	6411	91.08	R.norvegicus mRNA for protein phosphatase V	rc_AA955808 UI-R-E1-fg-h-05-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E1-fg-h-05-0-UI /clone_end=3 /gb=AA955808 /ug=Rn.8573 /len=536	Cytoplasmic.	Serine/threonine protein phosphatase 6 (EC 3.1.3.16) (PP6) (Protein phosphatase V) (PP-V).
AA955808	6412	QB4620	6413	BC006990	6414	O00743	6415	91.08	R.norvegicus mRNA for protein phosphatase V	rc_AA955808 UI-R-E1-fg-h-05-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E1-fg-h-05-0-UI /clone_end=3 /gb=AA955808 /ug=Rn.8573 /len=536	Cytoplasmic.	Serine/threonine protein phosphatase 6 (EC 3.1.3.16) (PP6) (Protein phosphatase V) (PP-V).
AA957003	6416	P60115	6417	X06234	6418	P06109	6419	62	Rattus norvegicus Interleukin-calcium-binding protein (MRP6) mRNA, complete cds	rc_AA957003 UI-R-E1-fg-d-09-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E1-fg-d-09-0-UI /clone_end=3 /gb=AA957003 /ug=Rn.9166 /len=369		Calgranulin A (Migraion Inhibitory factor-related protein 8) (MRP-8)(p8).

Table 2.

AA957640	6420	P06766	6421	M13140	6422	P06746	6423	89.55	DNA polymerase beta (P0lb)	NM_017141	rc_AA957640 U R-E1-gf-b-02-O-U s1 Rattus norvegicus cDNA, 3 end /clone=U R-E1-gf-b-02-O-U  /clone_end=3 /gb=AA957640 /ug=Rn.9346 /len=360		DNA polymerase beta (EC 2.7.7.7).
AA957917	6424	P30823	6425	X59155	6426	P30825	6427	86.92	Solute carrier family 7 member A1 (amino acid transporter cationic 1)	rc_AA957917 U R-E1-4v-o-05-O-U s1 Rattus norvegicus cDNA, 3 end /clone=U R-E1-4v-o-05-O-U  /clone_end=3 /gb=AA957917 /ug=Rn.8439 /len=402	Integral membrane protein.	High-affinity cationic amino acid transporter-1 (CAT-1) (CAT1) (System Y+ basic amino acid transporter) (Ecotropic retroviral leukemiarceptor) (ERR) (Ecotropic retrovirus receptor).	

Table 2.

AA9579	6428	P30823	6429	X59155	6430	P30825	6431	86.92	Solute carrier family 7 member A1 (amino acid transporter cationic 1)	NM_013111	rc_AA957917 UI-R-E1-fv-c-05-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E1-fv-c-05-Q-UI /clone_end=3 /gb=AA957917 /ug=Rn.9439 /len=402	Integral membrane protein.	High-affinity cationic amino acid transporter-1 (CAT-1) (System Y <sup>+</sup> basic amino acid transporter) (Ecotropic retroviral leukemiacarcepto-1) (ERR) (Ecotropic retrovirus receptor).
AA9579	6432	P18395	6433	AY049786	6434	O75534	6435	94.37	Rat untr mRNA for untr protein with unknown function		rc_AA957961 UI-R-E1-fz-g-08-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E1-fz-g-08-Q-UI /clone_end=3 /gb=AA957961 /ug=Rn.3562 /len=462	Cytoplasmic.	UNR protein.
AA9634	6436	NP_113794	6437	BI823499	6438	NP_000305	6439	95.77	phosphatase and tensin homolog	NM_031606	rc_AA963447 UI-R-E1-gj-e-06-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E1-gj-e-06-Q-UI /clone_end=3 /gb=AA963447 /ug=Rn.22158 /len=456		
AA9636	6440	P87570	6441	AL136710	6442	A55575	6443	93.5	Rattus norvegicus 180 kDa ankyrin isoform mRNA, complete cds		rc_AA963682 UI-R-E1-q8-h-11-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E1-q8-h-11-Q-UI /clone_end=3 /gb=AA963682 /ug=Rn.236 /len=376		

Table 2.

AA96361	6444	P97570	6445	AL136710	6446	A55576	6447	93.5	Rattus norvegicus 190 kDa ankyrin isoform mRNA, complete cds	rc_AA963682 UI-R-E1-gg-h-11-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E1-gg-h-11-O-UI /clone_end=3 /gb=AA963682 /ug=Rn.236 /len=376	Attached to the membrane by a GPI-anchor.	Glypican-3 precursor (intestinal protein OCI-5).
AA96361	6448	P13265	6449	L47125	6450	P51654	6451	89.19	Glypican 3	rc_AA963657 UI-R-E1-gk-a-07-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E1-gk-a-07-O-UI /clone_end=3 /gb=AA963657 /ug=Rn.8717 /len=408	Attached to the membrane by a GPI-anchor.	Glypican-3 precursor (intestinal protein OCI-5).
AA9651	6452	P42655	6453	BC000179	6454	P42655	6455	99.41	Tyrosine 3-monooxygenase/tyrosophan 5-monooxygenase activator protein, epsilon polypeptide	rc_AA965154 UI-R-CO-hc-h-09-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-CO-hc-h-09-O-UI /clone_end=3 /gb=AA965154 /ug=Rn.4225 /len=437	Cytoplasmic.	14-3-3 protein epsilon (Mitochondrial import stimulation factor Laubunit) (Protein Kinase C inhibitor protein-1) (KClP-1) (14-3-3E).
AA987614	6456	Q84654	6457	BG567904	6458	Q16850	6459	93.38	Cytochrome P450 Lanosterol 14 alpha-demethylase	rc_AA987614 UI-R-CO-hy-g-09-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-CO-hy-g-09-O-UI /clone_end=3 /gb=AA987614 /ug=Rn.6150 /len=348	Microsomal.	Cytochrome P450 51 (EC 1.14.14.-) (CYP51) (P450L1) (Sterol 14-alpha demethylase) (LDM) (P450-14DM).

Table 2.

AA987806	6460	P15129	6461	X16689	6462	P13584	6463	87.3	Cytochrome P450, subfamily IVB, polypeptide 1	NM_016999	rc_AA987806 UI-R-CO-hv-e-08-O-JI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-CO-hv-e-08-O-JI /clone_end=3 /gb=AA987806 /ug=Rn.5721 /len=349	Membrane-bound. Endoplasmic reticulum.	Cytochrome P450 4B1 (EC 1.14.14.1) (CYP1B1) (P450-isozyme 5).
AA987886	6464	C64680	6465	M33388	6466	AAA53500	6467	76	Rattus norvegicus mRNA for CYP2D4, complete cds	AB008425	rc_AA987886 UI-R-CO-hu-h-10-O-JI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-CO-hu-h-10-O-JI /clone_end=3 /gb=AA987886 /ug=Rn.11043 /len=525	Membrane-bound. Endoplasmic reticulum.	Cytochrome P450 2D18 (EC 1.14.14.1) (CYP11D18) (P450 2D-28/ZD35).
A1007814	6468	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)	rc_A1007614 EST202065 Rattus norvegicus cDNA, 3 end /clone=RBRA522 /clone_end=3 /gb=A1007614 /ug=Rn.221 /len=522			
A1007824	6469	CAA49904	6470	XM_0016991		XP_0016991		91	R. norvegicus mRNA for Msa4 protein	X70496	rc_A1007824 EST202275 Rattus norvegicus cDNA, 3 end /clone=RBRAV39 /clone_end=3 /gb=A1007824 /ug=Rn.11302 /len=569		
A1007824	6471	CAA49904	6472	XM_0016991		XP_0016991		91	R. norvegicus mRNA for Msa4 protein	X70496	rc_A1007824 EST202275 Rattus norvegicus cDNA, 3 end /clone=RBRAV39 /clone_end=3 /gb=A1007824 /ug=Rn.11302 /len=569		
A1007835	6473	O08875	6474	AB002367	6475	O15075	6476	86	Rattus norvegicus protein serine/threonine kinase CPG16 (cpg16)	U78857	rc_A1007835 EST202286 Rattus norvegicus cDNA, 3 end /clone=RBRAV51 /clone_end=3 /gb=A1007835 /ug=Rn.11405 /len=540		Serine/threonine protein kinase DCAMKL1 (EC 2.7.1.-) (Doublecortin-like and CAM kinase-like 1) (Calcium/calmodulin-dependent protein kinase type I-like CPG16).

Table 2.

AI0081 31	6477	P17708	6478	BC000171	6479	P17707	6480	97	S- adenosylmethi online decarboxylase	M34464	rc_AI008131 EST202562 Rattus norvegicus cDNA, 3 end /clone=REMAT31 /clone_end=3 /gb=AI008131 /ug=Rn.1909 /len=498	S- adenosylmethio nine decarboxylase proenzymic (EC 4.1.1.50) (AdoMetDC)(Sa mDC) [Contains: S- adenosylmethio nine decarboxylase alpha chain; S- adenosylmethio nine decarboxylase beta chain].
AI0081 31	6481	P17708	6482	BC000171	6483	P17707	6484	97	S- adenosylmethi online decarboxylase	M34464	rc_AI008131 EST202562 Rattus norvegicus cDNA, 3 end /clone=REMAT31 /clone_end=3 /gb=AI008131 /ug=Rn.1909 /len=498	S- adenosylmethio nine decarboxylase proenzymic (EC 4.1.1.50) (AdoMetDC)(Sa mDC) [Contains: S- adenosylmethio nine decarboxylase alpha chain; S- adenosylmethio nine decarboxylase beta chain].
AI0084 23	6485	AAB939	6486	AF077036	6487	AAD277	6488	91	Rattus norvegicus unc-50 related protein	U96638	rc_AI008423 EST202874 Rattus norvegicus cDNA, 3 end /clone=REMAX14 /clone_end=3 /gb=AI008423 /ug=Rn.3446 /len=512	

Table 2.

AI008638	6489	P70490	6490	U58516	6491	Q08431	6492	85.71	O-acyltransferase Milk fat globule membrane protein	rc_AI008638 EST203089 Rattus norvegicus cDNA, 3' end /clone=REMBB06 /clone_end=3 /gb=AI008638 /ug=Rn.3742 /len=607	PERIPHERAL MEMBRANE PROTEIN.	Lactadherin precursor (Milk fat globule-EGF factor 8) (MFG-E8) (O-acetyl GD3 ganglioside synthase) (Ags) (MFGM).
AI008639	6493	O70437	6494	N74105	6495	XP_030100		90.38	Rattus norvegicus MAD homolog 4	rc_AI008639 EST203090 Rattus norvegicus cDNA, 3' end /clone=REMBB09 /clone_end=3 /gb=AI008639 /ug=Rn.9774 /len=486	IN THE CYTOPLASM IN THE ABSENCE OF LIGAND: MIGRATION TO THE NUCLEUS WHEN COMPLEXED WITH R-SMAD.	Mothers against decapentaplegic homolog 4 (SMAD 4) (Mothers against DPP homolog 4) (Smad4).
AI008636	6496	P52825	6497	Z17240	6498	P26583	6499	81.27	high mobility group protein 2	rc_AI008636 EST203287 Rattus norvegicus cDNA, 3' end /clone=REMBE03 /clone_end=3 /gb=AI008636 /ug=Rn.2874 /len=460	Nuclear.	High mobility group protein 2 (HMG-2).
AI008652	6500	P20001	6501	AA076035	6502	P04720	6503	98.36	Eukaryotic translation elongation factor 1 alpha 2	rc_AI008652 EST203303 Rattus norvegicus cDNA, 3' end /clone=REMBE33 /clone_end=3 /gb=AI008652 /ug=Rn.965 /len=531	ANCHORED AT THE ENDOPLASMIC RETICULUM BY MEMBRANE PHOSPHATIDYLINOSITOL VIA ETHANOLAMINE BRIDGING.	Elongation factor 1-alpha 1 (EF-1-alpha-1) (Elongation factor 1 A-1) (EF-1A-1) (Elongation factor Tu) (EF-Tu).



Table 2.

AI0088 88	6504	P01041	6505	AW45114 5	6506	P04080	6507	89.36	Cystatin beta		rc_AI008888 EST203339 Rattus norvegicus cDNA, 3 end /clone=REMBE86 /clone_end=3 /gb=AI008888 /ug=Rn.1233 /len=528	Cytoplasmic.	Cystatin B (Liver thiol proteinase inhibitor) (Stein B) (Cystatinbeta).
AI0088 88	6508	P01041	6509	AW45114 5	6510	P04080	6511	89.36	Cystatin beta		rc_AI008888 EST203339 Rattus norvegicus cDNA, 3 end /clone=REMBE86 /clone_end=3 /gb=AI008888 /ug=Rn.1233 /len=528	Cytoplasmic.	Cystatin B (Liver thiol proteinase inhibitor) (Stein B) (Cystatinbeta).
AI0091 41	6512	No Rat Protein Found.		AW97635 6	6513	No Human Protein Found.		84.4	M.musculus mRNA for M31 protein, exon 9	X85399	rc_AI009141 EST203592 Rattus norvegicus cDNA, 3 end /clone=REMBJ39 /clone_end=3 /gb=AI009141 /ug=Rn.221 /len=608		
AI0091 47	6514	No Rat Protein Found.		AJ249880	6515	CAB965 37	6516	86	EST (human hypothetical protein)		rc_AI009147 EST203598 Rattus norvegicus cDNA, 3 end /clone=REMBJ52 /clone_end=3 /gb=AI009147 /ug=Rn.221 /len=429		
AI0092 68	6517	P15791	6518	AF071569	6519	Q13557	6520	92.9	Ca <sup>++</sup> /calmodu lin-dependent protein kinase II, delta subunit		rc_AI009268 EST203719 Rattus norvegicus cDNA, 3 end /clone=RHEAB12 /clone_end=3 /gb=AI009268 /ug=Rn.122 /len=382		Calcium/calmod ulin-dependent protein kinase type II delta chain (EC2.7.1.123) (CaM-kinase II delta chain) (CaM kinase II delta subunit)(CaMK- II delta subunit).
AI0093 80	6521	AAH02 163	6522	AF020362	6523	O43920	6524	85.15	Mus musculus, Similar to NADH dehydrogenas e	BC002163	rc_AI009390 EST203841 Rattus norvegicus cDNA, 3 end /clone=RHEBL41 /clone_end=3 /gb=AI009390 /ug=Rn.3392 /len=472		

Table 2.

AI008405	6525	P16473	6526	BF196063	6527	XP_038124	90.85	Insulin-like growth factor-binding protein (IGF-BP3)	NM_012588	rc_AI008405 EST203856 Rattus norvegicus cDNA, 3' end /clone=RHEBJS6 /clone_end=3 /gb=AI008405 /ug=Rn.1710 /len=501	Secreted.	Insulin-like growth factor binding protein 3 precursor (IGFBP-3)(IGF-binding protein 3).
AI008801	6528	P30904	6528	NM_002415	6530	P14174	90	Rattus norvegicus macrophage migration inhibitory factor	NM_031051	rc_AI008801 EST204252 Rattus norvegicus cDNA, 3' end /clone=RLUBOG3 /clone_end=3 /gb=AI008801 /ug=Rn.2661 /len=635		Macrophage migration inhibitory factor (MIF) (Phenylpyruvate tautomerase) (Glutathione-binding 13 kDa protein).
AI010283	6532	B39066		BC003133	6533	P46379	100	Rattus norvegicus mRNA for BAT3, complete cds		rc_AI010283 EST204744 Rattus norvegicus cDNA, 3' end /clone=RLUBW57 /clone_end=3 /gb=AI010283 /ug=Rn.221 /len=546		
AI010283	6535	BAA76607	6536	BC003133	6537	P46379	100	Rattus norvegicus mRNA for BAT3, complete cds	AB018791	rc_AI010283 EST204744 Rattus norvegicus cDNA, 3' end /clone=RLUBW57 /clone_end=3 /gb=AI010283 /ug=Rn.221 /len=546		
AI010463	6539	P17475	6540	XM_028358	6541	XP_028358	6542	Alpha-1-protease inhibitor	NM_022519	rc_AI010453 EST204904 Rattus norvegicus cDNA, 3' end /clone=RLUBZ64 /clone_end=3 /gb=AI010453 /ug=Rn.1419 /len=612	Extracellular.	Alpha-1-antitrypsin (Alpha-1-proteinase inhibitor).

Table 2.

A10104 80	6543	P04636	6544	NM_0059 18	6545	P40926	6546	89	Rattus norvegicus malate dehydrogenas e mitochondrial	NM_03115	rc_A1010480 EST204931 Rattus norvegicus cdNA, 3 end /clone=RLUBZ96 /clone_end=3 /gb=A1010480 /ug=Rn.1011 /len=590	Mitochondrial matrix.	Malate dehydrogenase, mitochondrial precursor (EC 1.1.1.37)."
A10104 80	6547	P04636	6548	NM_0059 18	6549	P40926	6550	89	Rattus norvegicus malate dehydrogenas e mitochondrial	NM_03115	rc_A1010480 EST204931 Rattus norvegicus cdNA, 3 end /clone=RLUBZ96 /clone_end=3 /gb=A1010480 /ug=Rn.1011 /len=590	Mitochondrial matrix.	Malate dehydrogenase, mitochondrial precursor (EC 1.1.1.37)."
A10105 80	6551	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			Mus musculus DNA repair protein (XRCC1) gene	L34078	rc_A1010580 EST205031 Rattus norvegicus cdNA, 3 end /clone=RMUA068 /clone_end=3 /gb=A1010580 /ug=Rn.13632 /len=377		
A10105 81	6552	P11030	6553	BC000920	6554	NZHU	6555	87.38	Diazepam binding inhibitor (GABA receptor modulator, acyl- Coenzyme A binding protein)		rc_A1010581 EST205032 Rattus norvegicus cdNA, 3 end /clone=RMUA069 /clone_end=3 /gb=A1010581 /ug=Rn.3285 /len=543		Acyl-CoA- binding protein (ACBP) (Diazepam binding inhibitor) (DBI)/(Endozepi ne) (EP).
A10105 81	6556	P11030	6557	BC000920	6558	NZHU	6559	87.38	Diazepam binding inhibitor (GABA receptor modulator, acyl- Coenzyme A binding protein)	NM_03185	rc_A1010581 EST205032 Rattus norvegicus cdNA, 3 end /clone=RMUA069 /clone_end=3 /gb=A1010581 /ug=Rn.3285 /len=543		Acyl-CoA- binding protein (ACBP) (Diazepam binding inhibitor) (DBI)/(Endozepi ne) (EP).

Table 2.

AI0114 98	6560	BAA241 06	6561	BC018853	6562	XP_008 253	6563	95.67	BAF60b	AB003505	rc_AI011498 EST205849 Rattus norvegicus cDNA, 3 end /clone=ROVA/V73 /clone_end=3 /gb=AI011498 /ug=Rn.3053 /len=644		
AI0115 66	6564	No Rat Protein Found.		X03205	6565	No Human Protein Found.			18S rRNA gene	M11188	rc_AI011556 EST206007 Rattus norvegicus cDNA, 3 end /clone=ROVA/W63 /clone_end=3 /gb=AI011556 /ug=Rn.17740 /len=405		
AI0119 98	6566	P97554	6567	NM_0123 28	6568	C8UBS3	6569	90.25	microvascular endothelial differentiation gene 1	NM_01269	rc_AI011998 EST206449 Rattus norvegicus cDNA, 3 end /clone=RP/LAR43 /clone_end=3 /gb=AI011998 /ug=Rn.11296 /len=495	Cytoplasmic. Stress Induces its translocation to the nucleus.	DnaI homolog subfamily B member 9 (Microvascular endothelial differ entiation gene-1 protein) (Mdg- 1).
AI0120 30	6570	P08494	6571	NM_0008 00	6572	P08493	6573	69	Matrx Gia protein (Mgp)	NM_01286	rc_AI012030 EST208481 Rattus norvegicus cDNA, 3 end /clone=RP/LAR80 /clone_end=3 /gb=AI012030 /ug=Rn.2379 /len=548	Extracellular.	Matrx Gia- protein precursor (MGP).
AI0121 83	6574	C09018	6575	BC014664	6576	P24468	6577	95.03	ovalbumin upstream promoter beta nuclear receptor rCOUPb	AF003944	rc_AI012183 EST206634 Rattus norvegicus cDNA, 3 end /clone=RP/LAT70 /clone_end=3 /gb=AI012183 /ug=Rn.17815 /len=547	Nuclear.	COUP transcription factor 2 (COUP- TF2) (COUP-TF II) (Apolipoprotein AIIregulatory protein-1) (ARP- 1) (Ovalbumin upstream promoter betanuclear receptor) (COUPB).

Table 2.

A1012275	65780	g310100	AK026285	65790	g3294180	85.83	Rattus norvegicus developmentally regulated protein, mRNA, complete cds	rc_A1012275 EST206726 Rattus norvegicus cDNA, 3' end /clone=RPLAU85 /clone_end=3 /gb=A1012275 /ug=Rn.4089 /len=686	Glutathione S-transferase P (EC 2.5.1.18) (GST 7-7) (Chain 7)(GST class-pi).	
A1012589	65800	P04806	65810	U30897	65820	P09211	85	Glutathione S-transferase, pi 2	rc_A1012589 EST207040 Rattus norvegicus cDNA, 3' end /clone=RPLAZ28 /clone_end=3 /gb=A1012589 /ug=Rn.5985 /len=660	Glutathione S-transferase P (EC 2.5.1.18) (GST 7-7) (Chain 7)(GST class-pi).
A1012589	65840	P04806	65850	U30897	65860	P09211	85	Glutathione S-transferase, pi 2	rc_A1012589 EST207040 Rattus norvegicus cDNA, 3' end /clone=RPLAZ28 /clone_end=3 /gb=A1012589 /ug=Rn.5985 /len=660	Glutathione S-transferase P (EC 2.5.1.18) (GST 7-7) (Chain 7)(GST class-pi).
A1012604	65880	C07205	65890	NM_001869	65900	P55010	80	eukaryotic initiation factor 5 (eIF-5)	rc_A1012604 EST207055 Rattus norvegicus cDNA, 3' end /clone=RPLAZ45 /clone_end=3 /gb=A1012604 /ug=Rn.3506 /len=614	Eukaryotic translation initiation factor 5 (eIF-5).
A1013184	65920	C07205	65930	NM_001869	65940	P55010	80	Eukaryotic initiation factor 5 (eIF-5)	rc_A1013194 EST207869 Rattus norvegicus cDNA, 3' end /clone=RSPBH90 /clone_end=3 /gb=A1013194 /ug=Rn.3506 /len=484	Eukaryotic translation initiation factor 5 (eIF-5).
A1013297	65960	NP_035017	65970	BC005270	65980	O43181	82.86	Mus musculus NADH dehydrogenase (ubiquinone) Fe-S protein 4 (18 kDa) (Ndufs4)	rc_A1013297 EST207972 Rattus norvegicus cDNA, 3' end /clone=RSPBJ19 /clone_end=3 /gb=A1013297 /ug=Rn.6543 /len=487	

Table 2.

AI0132 97	6600	NP_035 017	6601	BC005270	6602	C43181	6603	92.86	Mus musculus NADH dehydrogenas e (ubiquinone) Fe-S protein 4 (18 kDa) (Nduif4)	NM_01088 7	rc_AI013297 EST207872 Rattus norvegicus cDNA, 3 end /clone=RSPBJ19 /clone_end=3 /gb=AI013297 /ug=Rn.6543 /len=487
AI0132 97	6604	NP_035 017	6605	BC005270	6606	C43181	6607	92.86	Mus musculus NADH dehydrogenas e (ubiquinone) Fe-S protein 4 (18 kDa) (Nduif4)	NM_01088 7	rc_AI013297 EST207872 Rattus norvegicus cDNA, 3 end /clone=RSPBJ19 /clone_end=3 /gb=AI013297 /ug=Rn.6543 /len=487
AI0132 87	6608	NP_035 017	6609	BC005270	6610	C43181	6611	82.86	Mus musculus NADH dehydrogenas e (ubiquinone) Fe-S protein 4 (18 kDa) (Nduif4)	NM_01088 7	rc_AI013297 EST207872 Rattus norvegicus cDNA, 3 end /clone=RSPBJ19 /clone_end=3 /gb=AI013297 /ug=Rn.6543 /len=487
AI0134 72	6612	CAA69 108	6613	NM_0037 13	6614	NP_003 704	6615	91	R.norvegicus mRNA for ER transmembran e protein	Y07783	rc_AI013472 EST208147 Rattus norvegicus cDNA, 3 end /clone=RSPBJ95 /clone_end=3 /gb=AI013472 /ug=Rn.7178 /len=526
AI0140 87	6616	P02383	6617	AW02250 6	6618	XP_015 318		88.08	ribosomal protein S26	X02414	rc_AI014087 EST207642 Rattus norvegicus cDNA, 3 end /clone=RSPBE69 /clone_end=3 /gb=AI014087 /ug=Rn.1059 /len=517
AI0141 35	6619	No Rat Protein Found.		L22009	6620	P31943	6621	100	CDK103 mRNA	Y17322	rc_AI014135 EST207690 Rattus norvegicus cDNA, 3 end /clone=RSPBF48 /clone_end=3 /gb=AI014135 /ug=Rn.4229 /len=410

40S ribosomal  
protein S26.

Table 2.

AI0141 35	6622	No Rat Protein Found.	L22009	6623	P31943	6624	100	Rattus norvegicus CDK103 mRNA	Y17322	rc_AI014135 EST207690 Rattus norvegicus cDNA, 3 end /clone=RSPBF48 /clone_end=3 /gb=AI014135 /ug=Rn.4229 /len=410	
AI0141 35	6625	No Rat Protein Found.	L22009	6626	P31943	6627	100	CDK103 mRNA	Y17322	rc_AI014135 EST207690 Rattus norvegicus cDNA, 3 end /clone=RSPBF48 /clone_end=3 /gb=AI014135 /ug=Rn.4229 /len=410	
AI0141 35	6628	No Rat Protein Found.	L22009	6629	P31943	6630	100	Rattus norvegicus CDK103 mRNA	Y17322	rc_AI014135 EST207690 Rattus norvegicus cDNA, 3 end /clone=RSPBF48 /clone_end=3 /gb=AI014135 /ug=Rn.4229 /len=410	
AI0141 63	6631	P20695	6632	AV733799	6633	6634	93.69	Interferon- related developmental regulator 1	NM_01924 2	rc_AI014163 EST207718 Rattus norvegicus cDNA, 3 end /clone=RSPBF82 /clone_end=3 /gb=AI014163 /ug=Rn.3723 /len=550	PRESENTS A NGF- DEPENDENT PATTERN OF INTRACELL ULAR LOCALIZATI ON WITH INCREASED G AMOUNTS OF NGF AND BESIDES BEING EXPRESSED IN THE CYTOPLAS M, IT IS ALSO LOCALIZED IN THE PLASMA MEMBRANE (INNER SIDE) AT"

Table 2.

AI014169	6635	No Rat Protein Found.	AW601963	6636	No Human Protein Found.	90.78	clone N27	U30789	rc_AI014169 EST207724 Rattus norvegicus cDNA, 3 end /clone=RSPBF88 /clone_end=3 /gb=AI014169 /ug=Rn.2758 /len=553	"NUCLEAR AND ALSO CYTOPLAS MIC, ASSOCIATE D WITH THE PLASMA MEMBRANE OF FILIPODIA IN PROCESS-GROWING CELLS, AND ALSO DEPOSITED INTO THE SUBSTRATE ATTACHED MATERIAL."	High mobility group protein 1 (HMG-1) (Amphoterin) (Heparin-bindingprotein p30).
AI029805	6637	P07155	6638	AV701053	6639	P09429	6640	100	High mobility group 1	rc_AI029805 UI-R-CO-jn-b-01-Q-UI.a1 Rattus norvegicus cDNA, 3 end /clone=UI-R-CO-jn-b-01-Q-UI /clone_end=3 /gb=AI029805 /ug=Rn.4121 /len=367	



Table 2.									
AI029805	6641	P07155	6642	AV701053	6643	P09429	6644	100	High mobility group 1
rc_AI029805 U-R-CO-jn-b-01-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=U-R-CO-jn-b-01-Q-UI /clone_end=3 /gb=AI029805 /ug=Rn.4121 /len=367									
"NUCLEAR AND ALSO CYTOPLASMIC, ASSOCIATED WITH THE PLASMA MEMBRANE OF FLIPODIA IN PROCESS-GROWING CELLS, AND ALSO DEPOSITED INTO THE SUBSTRATE ATTACHED MATERIAL."									High mobility group protein 1 (HMG-1) (Amphotericin) (Heparin-binding protein p30).

AI0301	6645	P41777	6646	XM_005918	XP_005818	42	Rattus norvegicus nucleolar phosphoprotein p130 (Nopp140)	NM_022869	rc_AI030089 U1-R-CO11c-04-O-U1.s1 Rattus norvegicus cDNA, 3' end /clone=U1-R-CO11c-04-O-U1 /clone_end=3 /gb=AI030089 /ug=Rn.9617 /len=508	SHUTTLER ON CURVILINEAR TRACKS BETWEEN NUCLEOLUS AND CYTOPLASM. THESE TRACKS EXTEND FROM THE DENSE FIBRILLAR COMPONENT OF THE NUCLEOLUS ACROSS THE NUCLEOLUS TO A LIMITED NUMBER OF NUCLEAR PORE COMPLEXES.	Nucleolar phosphoprotein p130 (Nucleolar protein) (140 kDa) (Nucleolar phosphoprotein) (Nopp140) (Nucleolar and cytosolic body phosphoprotein 1).
AI030175	6647	P27867	6648	L28008	6649 Q00796	82	Sorbitol dehydrogenase	rc_AI030175 U1-R-CO11c-09-O-U1.s1 Rattus norvegicus cDNA, 3' end /clone=U1-R-CO11c-09-O-U1 /clone_end=3 /gb=AI030175 /ug=Rn.11334 /len=505		Sorbitol dehydrogenase (EC 1.1.1.14) (L-iditol 2-dehydrogenase)	
AI030175	6651	P27867	6652	L28008	6653 Q00796	82	Sorbitol dehydrogenase	rc_AI030175 U1-R-CO11c-09-O-U1.s1 Rattus norvegicus cDNA, 3' end /clone=U1-R-CO11c-09-O-U1 /clone_end=3 /gb=AI030175 /ug=Rn.11334 /len=505		Sorbitol dehydrogenase (EC 1.1.1.14) (L-iditol 2-dehydrogenase)	

## Table 2.

A10302	6655	P23363	6656	X60201	6657	P23560	6658	92.86	Brain derived neurotrophic factor	NM_01251	rc_A1030286 U-R-CO-Jb-c-02-O-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=U-R-CO-Jb-c-02-O-Ul /clone_end=3 /gb=A1030286 /ug=Rn.11266 /len=367	Secreted.	Brain-derived neurotrophic factor precursor (BDNF).
A10436 31	6659	Q63764	6660	D88674	6661	O14977	6662	95.34	Omithline decarboxylase antizyme inhibitor	NM_02258	rc_A1043631 U-R-CO-Jb-09-O-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=U-R-CO-Jb-09-O-Ul /clone_end=3 /gb=A1043631 /ug=Rn.6280 /len=531		Omithline decarboxylase antizyme inhibitor.
A10436 31	6663	Q63764	6664	D88674	6665	O14977	6666	95.34	Omithline decarboxylase antizyme inhibitor	NM_02258	rc_A1043631 U-R-CO-Jb-09-O-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=U-R-CO-Jb-09-O-Ul /clone_end=3 /gb=A1043631 /ug=Rn.6280 /len=531		Omithline decarboxylase antizyme inhibitor.
A10447 16	6667	PA7971	6668	U61849	6669	Q15916	6670	90.86	Rattus norvegicus neuronal pentraxin precursor mRNA, complete cds		rc_A1044716 U-R-C1-Kt-a-09-O-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=U-R-C1-Kt-a-09-O-Ul /clone_end=3 /gb=A1044716 /ug=Rn.10233 /len=363	SECRETORY VESICLES	Neuronal pentraxin I precursor (NP-I) (NP1) (47 kDa (NP1)-galactose-binding protein).
A10449 00	6671	P18163	6672	D10040	6673	P33121	6674	85	Acyl CoA synthetase, long chain		rc_A1044900 U-R-C1-Kk-c-05-O-Ul.s1 Rattus norvegicus cDNA, 3 end /clone=U-R-C1-Kk-c-05-O-Ul /clone_end=3 /gb=A1044900 /ug=Rn.6215 /len=388	"MICROSOMAL MITTOCHONDRIAL MEMBRANE."	"Long-chain-fatty-acid-CoA ligase, liver isozyme (EC 6.2.1.3)(Long-chain acyl-CoA synthetase 2) (LACS 2)."

Table 2.

A1044900	6675	P18163	6676	D10040	6677	P33121	6678	85	Acyl CoA synthetase, long chain	rc_A1044900 U1-R-C1-kk-c-05-O-U1.s1 Rattus norvegicus cDNA, 3 end /clone=U1-R-C1-kk-c-05-O-U1 /clone_end=3 /gb=A1044900 /ug=Rn.6215 /len=388	"MICROSOMAL ES, OUTER MITOCHON DRIAL MEMBRANE AND PEROXISOM AL MEMBRANE."	"Long-chain- fatty-acid-CoA ligase, liver isozyme (EC 6.2.1.3)(Long- chain acyl-CoA synthetase 2) (LACS 2)."
A1059291	6679	P12366	6680	X14968	6681	P13861	6682	87	Protein kinase, cAMP dependent regulatory, type II alpha	rc_A1059291 U1-R-C1-lb-h-03-O-U1.s1 Rattus norvegicus cDNA, 3 end /clone=U1-R-C1-lb-h-03-O-U1 /clone_end=3 /gb=A1059291 /ug=Rn.8742 /len=384		cAMP- dependent protein kinase type II-alpha regulatory chain(Fragment)
A1070108	6683	AAH03446	6684	NM_007070	6685	Q92990	6686	92.13	FKBP-associated protein	rc_A1070108 U1-R-Y0-lu-e-09-O-U1.s1 Rattus norvegicus cDNA, 3 end /clone=U1-R-Y0-lu-e-09-O-U1 /clone_end=3 /gb=A1070108 /ug=Rn.16863 /len=528		
A1070295	6687	P48317	6688	M60974	6689	P24522	6690	95	DNA-damage-inducible transcript 1	rc_A1070295 U1-R-Y0-lt-d-01-O-U1.s1 Rattus norvegicus cDNA, 3 end /clone=U1-R-Y0-lt-d-01-O-U1 /clone_end=3 /gb=A1070295 /ug=Rn.10250 /len=545		Growth arrest and DNA- damage- inducible protein GADD45 alpha (DNA-damage inducible transcript 1) (DDIT1).

Table 2.

A10702 85	6691	P48317	6692	M60974	6693	P24522	6694	95	DNA-damage- inducible transcript 1	rc_A1070295 UI-R-YO-It-d-01-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-YO-It-d- 01-Q-UI /clone_end=3 /gb=A1070295 /ug=Rn.10250 /len=545	Growth arrest and DNA- damage- inducible protein GADD45 alpha (DNA-damage inducible transcript 1) (DDIT1).
A10702 95	6695	P48317	6696	M60974	6697	P24522	6698	95	DNA-damage- inducible transcript 1	rc_A1070295 UI-R-YO-It-d-01-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-YO-It-d- 01-Q-UI /clone_end=3 /gb=A1070295 /ug=Rn.10250 /len=545	Growth arrest and DNA- damage- inducible protein GADD45 alpha (DNA-damage inducible transcript 1) (DDIT1).
A10702 95	6699	P48317	6700	M60974	6701	P24522	6702	95	DNA-damage- inducible transcript 1	rc_A1070295 UI-R-YO-It-d-01-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-YO-It-d- 01-Q-UI /clone_end=3 /gb=A1070295 /ug=Rn.10250 /len=545	Growth arrest and DNA- damage- inducible protein GADD45 alpha (DNA-damage inducible transcript 1) (DDIT1).
A10705 21	6703	P18395	6704	AY049788	6705	O75534	6706	94,37	Rat untr mRNA for untr protein with unknown function	rc_A1070521 UI-R-YO-It-f-09-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-YO-It-f- 09-Q-UI /clone_end=3 /gb=A1070521 /ug=Rn.3562 /len=561	Cytoplasmic. UNR protein.

Accession	Gene	Protein	Function	Location	Notes						
A10705	6707	P18395	6708	AY049768	6709	OT5534	6710	94.37	Rat unr mRNA for unr protein with unknown function	cytoplasmic	UNR protein.
A10707	6711	Q62897	6712	AF042080	6713	P56158	6714	80.18	Glial cell line-derived neurotrophic factor receptor alpha	Attached to the membrane by a GPI-anchor.	GDNF receptor alpha precursor (GDNF-alpha) (TGFB-beta related)neurotrophic factor receptor (1) (RET ligand 1).
A10709	6715	P49911	6716	X75090	6717	P39687	6718	88	Acid nuclear phosphoprotein n 32 (leucine rich)	Nuclear.	Leucine-rich acidic nuclear protein.
A10709	6719	P49911	6720	X75090	6721	P39687	6722	88	Acid nuclear phosphoprotein n 32 (leucine rich)	Nuclear.	Leucine-rich acidic nuclear protein.
A10712	6723	O08876	6724	S81439	6725	Q13118	6726	87.11	TGFB Inducible early growth response	Nuclear.	Transforming growth factor-beta-inducible early growth response protein 1 (TGFB-1)

Table 2.

AI071435	6727	No Rat Protein Found.	No human homolog found.	No Human Protein Found.			Rattus norvegicus Secm2/RT1-A intergenic region, haplotype RT1n and partial RT1-A gene for MHC Class I antigen	AI071435	rc_AI071435 UI-R-C1-ku-a-04-Q-UI.s2 Rattus norvegicus cDNA, 3' end /clone=UI-R-C1-ku-a-04-Q-UI /clone_end=3 /gb=AI071435 /ug=Rn.21933 /len=446		
AI072943	6728	P47971	U61849	Q15818	6731	90.86	Rattus norvegicus neuronal pentraxin precursor mRNA, complete cds	AI072943	rc_AI072943 UI-R-YO-mc-h-09-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-YO-mc-h-09-Q-UI /clone_end=3 /gb=AI072943 /ug=Rn.10233 /len=364	SECRETORY VESICLES	Neuronal pentraxin I precursor (NP-1) (NP1) (47 kDa talpoxin-binding protein).
AI073164	6732	P56603	NM_004866	Q15126	6735	43	SCAMP	AI073164	rc_AI073164 UI-R-YO-mc-h-03-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-YO-mc-h-03-Q-UI /clone_end=3 /gb=AI073164 /ug=Rn.20374 /len=447	Integral membrane protein.	Secretory carrier-associated membrane protein 1 (SCAMP 37).
AI073204	6738	P42655	BC000179	P42655	6739	89.41	Tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activator polypeptide	AI073204	rc_AI073204 UI-R-YO-mc-h-09-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-YO-mc-h-09-Q-UI /clone_end=3 /gb=AI073204 /ug=Rn.4225 /len=356	Cytoplasmic.	14-3-3 protein epsilon (Mitochondrial import stimulation factor Laubunit) (Protein kinase C inhibitor protein-1) (KCIP1) (14-3-3E).

Table 2.

AI1011	6740	Q84357	6741	AF135372	6742	P19065	6743	98	Vesicle-associated membrane protein (synaptobrevin 2)	rc_A101103 EST210392 Rattus norvegicus cDNA, 3' end /clone=RBRBF53 /clone_end=3 /gb=A101103 /gi=3706076 /ug=Rn.11289 /len=364	TYPE II MEMBRANE PROTEIN, NEURONAL SYNAPTIC VESICLES.	Vesicle-associated membrane protein 2 (VAMP 2) (Synaptobrevin 2).
AI1013	6744	P87607	6745	AF029779	6746	Q8Y219	6747	92.08	Jagged2	rc_A101320 EST210609 Rattus norvegicus cDNA, 3' end /clone=RBRBL38 /clone_end=3 /gb=A101320 /ug=Rn.22459 /len=616	Type I membrane protein.	Jagged 2 (Jagged2) (Fragment).
AI1017	6748	NP_077368	6749	NM_000414	6750	P51659	6751	81	peroxisomal multifunctional enzyme type II	rc_A101743 EST211032 Rattus norvegicus cDNA, 3' end /clone=RBRBU51 /clone_end=3 /gb=A101743 /gi=3706605 /ug=Rn.2082 /len=512		
AI1020	6752	Q08839	6753	U68485	6754	Q89688	6755	93.72	Rattus norvegicus mRNA for amphiphysin, amph2	rc_A102031 EST211320 Rattus norvegicus cDNA, 3' end /clone=RBRBY15 /clone_end=3 /gb=A102031 /gi=3706866 /ug=Rn.17098 /len=563	Nuclear and cytoplasmic.	Myc box dependent interacting protein 1 (Bridging Integrator 1) (Amphiphysin-like protein) (Amphiphysin II).
AI1020	6756	Q08839	6757	U68485	6758	Q89688	6759	93.72	Rattus norvegicus mRNA for amphiphysin, amph2	rc_A102031 EST211320 Rattus norvegicus cDNA, 3' end /clone=RBRBY15 /clone_end=3 /gb=A102031 /gi=3706866 /ug=Rn.17098 /len=563	Nuclear and cytoplasmic.	Myc box dependent interacting protein 1 (Bridging Integrator 1) (Amphiphysin-like protein) (Amphiphysin II).



Table 2.

AI102031	6760	O08839	6761	U68485	6762	Q99688	6763	93.72	Rattus norvegicus mRNA for amphipysin, amph2	rc_AI102031 EST211320 Rattus norvegicus cDNA, 3 end /clone=RBRBY15 /clone_end=3 /gb=AI102031 /gi=3706866 /ug=Rn.17098 /len=583	Nuclear and cytoplasmic.	Myc box dependent interacting protein 1 (Bridging Integrator 1)(Amphipysin-like protein) (Amphipysin II).
AI102031	6764	O08839	6765	U68485	6766	Q99688	6767	93.72	Rattus norvegicus mRNA for amphipysin, amph2	rc_AI102031 EST211320 Rattus norvegicus cDNA, 3 end /clone=RBRBY15 /clone_end=3 /gb=AI102031 /gi=3706866 /ug=Rn.17098 /len=583	Nuclear and cytoplasmic.	Myc box dependent interacting protein 1 (Bridging Integrator 1)(Amphipysin-like protein) (Amphipysin II).
AI102044	6768	No Rat Protein Found.		U22009	6769	P31943	6770	100	Rattus norvegicus CDK109 mRNA (mitochondrial)	rc_AI102044 EST211333 Rattus norvegicus cDNA, 3 end /clone=RBRBY28 /clone_end=3 /gb=AI102044 /gi=3706879 /ug=Rn.4229 /len=548		
AI102103	6771	BAA18969	6772	AI205643	6773	BAA21661	6774	92.91	Phosphatidylinositol 4-kinase	rc_AI102103 EST211392 Rattus norvegicus cDNA, 3 end /clone=RBRBY81 /clone_end=3 /gb=AI102103 /gi=3706936 /ug=Rn.14891 /len=611		
AI102103	6775	BAA18969	6776	AI205643	6777	BAA21661	6778	92.91	Phosphatidylinositol 4-kinase	rc_AI102103 EST211392 Rattus norvegicus cDNA, 3 end /clone=RBRBY91 /clone_end=3 /gb=AI102103 /gi=3706936 /ug=Rn.14891 /len=611		
AI102562	6779	P02803	6780	BG260238	6781	SMHU1E		93.1	metallothionein-1 (MT-1)	rc_AI102562 EST211851 Rattus norvegicus cDNA, 3 end /clone=REMBP28 /clone_end=3 /gb=AI102562 /gi=3707306 /ug=Rn.2714 /len=405		Metallothionein-1 (MT-1).

Table 2.

AI1026 20	6782	AA025 049	6783	AA834992	6784	Q13233	6785	97.01	MAP kinase kinase kinase 1 (Meck1)	AF117340	rc_A1102620 EST211909 Rattus norvegicus cDNA, 3 end /clone=REMBQ09 /clone_end=3 /gb=A1102620 /gi=3707344 /ug=Rn.9056 /len=522			
AI1028 38	6786	P12007	6787	AK022777	6788	P26440	6789	90.77	isovaleryl Coenzyme A dehydrogenase e	NM_01259	rc_A1102838 EST212127 Rattus norvegicus cDNA, 3 end /clone=REMBT53 /clone_end=3 /gb=A1102838 /ug=Rn.147 /len=458	Mitochondrial matrix.	"isovaleryl-CoA dehydrogenase mitochondrial precursor (EC 1.3.98.10)(IVD) "	
AI1028 38	6790	P12007	6791	AK022777	6792	P26440	6793	90.77	isovaleryl Coenzyme A dehydrogenase e	NM_01259	rc_A1102838 EST212127 Rattus norvegicus cDNA, 3 end /clone=REMBT53 /clone_end=3 /gb=A1102838 /ug=Rn.147 /len=458	Mitochondrial matrix.	"isovaleryl-CoA dehydrogenase mitochondrial precursor (EC 1.3.98.10)(IVD) "	
AI1030 74	6794	P09388	6795	AW13825 3	6796	XP_017 626		97.12	ribosomal protein S12	NM_03170	rc_A1103074 EST212363 Rattus norvegicus cDNA, 3 end /clone=REMBW89 /clone_end=3 /gb=A1103074 /gi=3707671 /ug=Rn.3378 /len=528	Cytoplasmic.	40S ribosomal protein S12.	
AI1038 74	6797	AAH02 122	6798	M86256	6799	Q00888	6800	92.93	ESTs, Weakly similar to FKB1 RAT FK508- BINDING PROTEIN [R.norvegicus]	BC002122	rc_A1103874 EST213163 Rattus norvegicus cDNA, 3 end /clone=RHEBU32 /clone_end=3 /gb=A1103874 /gi=3708352 /ug=Rn.1464 /len=437			

Table 2.

AI1038 74	6801	AAH02 122	6802	M96256	6803	Q00688	6804	92.93	ESTs, Weakly similar to FKB1 RAT FK506- BINDING PROTEIN [R.norvegicus]	BC002122	rc_AI103874 EST213163 Rattus norvegicus cDNA, 3 end /clone=RHEBU32 /clone_end=3 /gb=AI103874 /gb=3708352 /ug=Rn.1464 /len=437		
AI1039 57	6805	Q62745	6806	NM_0043 56	6807	P18582	6808	89	target of the antiproliferativ e antibody	U19894	rc_AI103957 EST213246 Rattus norvegicus cDNA, 3 end /clone=RHEBV58 /clone_end=3 /gb=AI103957 /gb=3708419 /ug=Rn.1975 /len=652	Integral membrane protein.	CD81 antigen (26 kDa cell surface protein TAPA-1) (Target of theantiprolerat ive antibody 1).
AI1039 57	6809	Q62745	6810	NM_0043 56	6811	P18582	6812	88	target of the antiproliferativ e antibody	U19894	rc_AI103957 EST213246 Rattus norvegicus cDNA, 3 end /clone=RHEBV58 /clone_end=3 /gb=AI103957 /gb=3708419 /ug=Rn.1975 /len=652	Integral membrane protein.	CD81 antigen (26 kDa cell surface protein TAPA-1) (Target of theantiprolerat ive antibody 1).
AI1040 35	6813	NP_079 904	6814	AL528775	6815	No Human Protein Found.		94.39	EST (mouse hypothetical protein)		rc_AI104035 EST213324 Rattus norvegicus cDNA, 3 end /clone=RHEBV48 /clone_end=3 /gb=AI104035 /gb=3708471 /ug=Rn.6009 /len=315		
AI1043 89	6816	P04177	6817	AK022876	6818	XP_032 531	6819	92.57	Mus musculus ankyrrn-repeat family A protein	AI104389	rc_AI104389 EST213678 Rattus norvegicus cDNA, 3 end /clone=RHECC67 /clone_end=3 /gb=AI104389 /gb=3708757 /ug=Rn.11082 /len=488		Tyrosine 3- monooxygenase (EC 1.14.16.2) (Tyrosine 3- hydroxylase) (TH).

Table 2.

AI1043 89	6820	P04177	6821	AK022876	6822	155282	6823	92.57	Tyrosine hydroxylase	rc_A1104389 EST1213678 Rattus norvegicus cDNA, 3' end /clone=RHECC67 /clone_end=3 /gb=A1104389 /gi=3708757 /ug=Rn.11082 /len=488	Mitochondrial inner membrane.	Tyrosine 3- monooxygenase (EC 1.14.16.2) (Tyrosine 3- hydroxylase) (TH).
AI1045 13	6824	P11240	6825	M22760	6826	P20674	6827	91.57	Rat CoxVa mRNA for mitochondrial cytochrome c oxidase subunit Va	rc_A1104513 EST1213802 Rattus norvegicus cDNA, 3' end /clone=RHECE50 /clone_end=3 /gb=A1104513 /gi=3708857 /ug=Rn.11077 /len=585	Mitochondrial inner membrane.	"Cytochrome c oxidase polypeptide Va, mitochondrial precursor"(EC 1.9.3.1)." "
AI1045 13	6828	P11240	6829	M22760	6830	P20674	6831	91.57	Rat CoxVa mRNA for mitochondrial cytochrome c oxidase subunit Va	rc_A1104513 EST1213802 Rattus norvegicus cDNA, 3' end /clone=RHECE50 /clone_end=3 /gb=A1104513 /gi=3708857 /ug=Rn.11077 /len=585	Mitochondrial inner membrane.	"Cytochrome c oxidase polypeptide Va, mitochondrial precursor"(EC 1.9.3.1)." "
AI1045 20	6832	P10818	6833	XM_012265	XP_012265			89	Rat mRNA for liver cytochrome c oxidase subunit Via	rc_A1104520 EST1213809 Rattus norvegicus cDNA, 3' end /clone=RHECE58 /clone_end=3 /gb=A1104520 /gi=3708862 /ug=Rn.880 /len=532	Mitochondrial inner membrane.	"Cytochrome c oxidase polypeptide Via- liver, mitochondrial precursor"(EC 1.9.3.1)." "
AI1045 24	6834	NP_112620	6835	BF000687	6836	C9Y2D1	6837	93.14	heterogeneous nuclear ribonucleoprotein A/B	rc_A1104524 EST1213813 Rattus norvegicus cDNA, 3' end /clone=RHECE63 /clone_end=3 /gb=A1104524 /gi=3708866 /ug=Rn.3385 /len=613		
AI1046 79	6838	NP_079799	6839	XP_040747	XM_040747				NADH dehydrogenase	rc_A1104679 EST1213968 Rattus norvegicus cDNA, 3' end /clone=RHECH63 /clone_end=3 /gb=A1104679 /gi=3708988 /ug=Rn.8096 /len=479		
AI1046 79	6840	NP_079799	6841	XP_040747	XM_040747				NADH dehydrogenase	rc_A1104679 EST1213968 Rattus norvegicus cDNA, 3' end /clone=RHECH63 /clone_end=3 /gb=A1104679 /gi=3708988 /ug=Rn.8096 /len=479		

Table 2.

AI1047 07	6842	P51638	6843	AF043101	6844	P56539	6845	89.84	Caveolin 3		rc_A1104707 EST213986 Rattus norvegicus cDNA, 3 end /clone=RHECH96 /clone_end=3 /gb=A1104707 /g=3709005 /ug=Rn.10175 /len=331	MEMBRANE OF CAVEOLAE. POTENTIAL HAIRPIN- LIKE STRUCTUR E IN THE MEMBRANE	Caveolin-3.
AI1050 44	6846	AAC13 319	6847	No human homolog found.		No Human Protein Found.			250 kDa estrous- specific protein mRNA, partial cds	US3183	rc_A1105044 EST214333 Rattus norvegicus cDNA, 3 end /clone=RHECM89 /clone_end=3 /gb=A1105044 /ug=Rn.1338 /len=572		
AI1050 54	6848	P23514	6849	AK001203	6850	P53618	6851	91.09	beta COP	X57228	rc_A1105054 EST214343 Rattus norvegicus cDNA, 3 end /clone=RHECN06 /clone_end=3 /gb=A1105054 /g=3709235 /ug=Rn.4327 /len=706	THE COATOMER IS CYTOPLAS MIC OR POLYMERIZ ED ON THE CYTOPLAS MIC SIDE OF THE GOLGI, AS WELL AS ON THE VESICLES/B UDS ORIGINATI G FROM IT	Coatomer beta subunit (Beta- coat protein) (Beta-COP).

Table 2.

AI105448	6852	P16232	6853	NM_005525	6854	P28845	6855	82.48	Hydroxysteroid dehydrogenase, 11 beta type 1	NM_017080	rc_A1105448 EST1214737 Rattus norvegicus cDNA, 3 end /clone=RKIBK51 /clone_end=3 /gb=A1105448 /gi=3708527 /ug=Rn.888 /len=638	Microsomal.	"Corticosteroid 11-beta-dehydrogenase, isozyme 1 (EC 1.1.1.146) (11-DH)(11-beta-hydroxysteroid dehydrogenase 1) (11-beta-HSD1)."
AI113289	6856	P20417	6857	AI803199	6858	NP_002818	6859	86.5	protein tyrosine phosphatase	NM_012637	rc_A113289 UI-R-C2p-ni-h-07-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-C2p-ni-h-07-0-UI /clone_end=3 /gb=A113289 /ug=Rn.11317 /len=332	ASSOCIATED TO THE ENDOPLASMIC RETICULUM VIA ITS C-TERMINAL DOMAIN WITH ITS PHOSPHATASE DOMAIN ORIENTED TOWARDS THE CYTOPLASM.	"Protein-tyrosine phosphatase, non-receptor type 1 (EC 3.1.3.48)(Ptotal n-tyrosine phosphatase 1B) (PTP-1B)."
AI136175	6860	AAA42000	6861	AF235022	6862	P57728	6863	91.24	Rat rab-related GTP-binding protein mRNA, complete cds		rc_A1136175 UI-R-C2p-ni-s-a-04-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-C2p-ni-s-a-04-0-UI /clone_end=3 /gb=A1136175 /ug=Rn.9824 /len=295		

Table 2.

AI1363 96	6864	Q02293	6865	AK024087	6866	NP_002 019	6867	92.24	farnesyltransferase beta subunit	M69056	Protein farnesyltransferase beta subunit (EC 2.5.1.-) (CAAXfarnesyltransferase beta subunit) (RAS proteins prenyltransferase beta) (FTase- beta).
AI1368 91	6868	P17431	6869	AI802540	6870	Q00411	6871	97.14	Butyrate response factor 1	rc_AI136891 UI-R-C2p-of-f-12-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-C2p-of-f-12-O-UI /clone_end=3 /gb=AI136891 /ug=Rn.6142 /len=449	Nuclear.  Butyrate response factor 1 (TIS1B protein) (EGF- inducible proteinCMG1).
AI1369 77	6872	S14538	M88279		6873	Q02790	6874	96.18	ESTs, Highly similar to P59 PROTEIN [M.musculus]	rc_AI136977 UI-R-C2p-nz-f-10-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-C2p-nz-f-10-O-UI /clone_end=3 /gb=AI136977 /ug=Rn.23741 /len=376	
AI1369 77	6875	JN0873	M88279		6876	Q02790	6877	96.18	ESTs, Highly similar to JN0873 Immunophilin p59 - mouse [M.musculus]	rc_AI136977 UI-R-C2p-nz-f-10-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-C2p-nz-f-10-O-UI /clone_end=3 /gb=AI136977 /ug=Rn.23741 /len=376	
AI1369 77	6878	S14538	M88279		6879	Q02790	6880	96.18	ESTs, Highly similar to P59 PROTEIN [M.musculus]	rc_AI136977 UI-R-C2p-nz-f-10-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-C2p-nz-f-10-O-UI /clone_end=3 /gb=AI136977 /ug=Rn.23741 /len=376	
AI1369 77	6881	S14538	M88279		6882	Q02790	6883	96.18	ESTs, Highly similar to P59 PROTEIN [M.musculus]	rc_AI136977 UI-R-C2p-nz-f-10-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-C2p-nz-f-10-O-UI /clone_end=3 /gb=AI136977 /ug=Rn.23741 /len=376	
AI1369 77	6884	S14538	M88279		6885	Q02790	6886	96.18	ESTs, Highly similar to P59 PROTEIN [M.musculus]	rc_AI136977 UI-R-C2p-nz-f-10-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-C2p-nz-f-10-O-UI /clone_end=3 /gb=AI136977 /ug=Rn.23741 /len=376	

Table 2.

AI1369 77	6887	JN0873	M88279	6888	Q02790	6889	96.18	ESTs, Highly similar to JN0873 immunophilin p59 - mouse [M.musculus]	XT0887	rc_AI136977 U1-R-C2p-nz-f-10-0-U1.s1 Rattus norvegicus cDNA, 3 end /clone=U1-R- C2p-nz-f-10-0-U1 /clone_end=3 /gb=AI136977 /ug=Rn.23741 /len=376	
AI1377 90	6880	Q05310	6891	NM_0140 47	6892	AAD444 84	6893	87.68	R. norvegicus mRNA from Leydig cell hypercalcaemic tumour H-500	rc_AI137790 U1-R-E1-gc-a-08-0-U1.s1 Rattus norvegicus cDNA, 3 end /clone=U1-R-E1-gc-a- 08-0-U1 /clone_end=3 /gb=AI137790 /ug=Rn.11146 /len=590	Leydig cell tumour 10 kDa protein.
AI1447 67	6894	Q83562	6895	X03541	6896	P04629	6897	66	brain alpha- tropomyosin	M34136 rc_AI144767 U1-R-BT0-pi-c-03-0-U1.s1 Rattus norvegicus cDNA, 3 end /clone=U1-R- BT0-pi-c-03-0-U1 /clone_end=3 /gb=AI144767 /ug=Rn.1033 /len=475	Tropomyosin 1 alpha chain (Alpha- tropomyosin).
AI1461 95	6898	Q62847	6899	NM_0168 24	6900	C9UEY6	6901	78	Adducin 3, gamma	rc_AI146195 U1-R-A1-ew-e-07-0-U1.s1 Rattus norvegicus cDNA, 3 end /clone=U1-R-A1-ew- e-07-0-U1 /clone_end=3 /gb=AI146195 /ug=Rn.9416 /len=403	Gamma adducin (Adducin-like protein 70) (Protein kinase C binding protein 35H).
AI1680 05	6902	Q04753	6903	AA832121	6904	NP_001 284	6905	94.77	chloride channel current inducer (Cicn1).	rc_AI168005 EST214833 Rattus norvegicus cDNA, 3 end /clone=RKIBL76 /clone_end=3 /gb=AI168005 /gl=3705313 /ug=Rn.4089 /len=601	Cytoplasmic. "Chloride conductance regulatory protein 1Cin (Cicn)) (Chloridechanne l, nucleotide sensitive 1A)."
AI1693 70	6906	P02551	6907	BC006379	6908	P05209	6909	100	Rat mRNA for alpha-tubulin	rc_AI169370 EST215214 Rattus norvegicus cDNA, 3 end /clone=RKIBR40 /clone_end=3 /gb=AI169370 /gl=3705678 /ug=Rn.3369 /len=581	Tubulin alpha-1 chain.



Table 2.

AI170613	6910	P26772	6911	XT5821	6912	Q04984	6913	90.29	Heat shock 10 kD protein 1 (chaperonin 10)	rc_AI170613 EST216547 Rattus norvegicus cDNA, 3' end /clone=RMUAZ03 /clone_end=3 /gb=AI170613 /gi=3710653 /ug=Rn.1540 /len=542	Mitochondrial matrix.	"10 kDa heat shock protein, mitochondrial (Hsp10) (10 kDa chaperonin)(CP N10)."
AI170613	6914	P26772	6915	XT5821	6916	Q04984	6917	90.29	Heat shock 10 kD protein 1 (chaperonin 10)	rc_AI170613 EST216547 Rattus norvegicus cDNA, 3' end /clone=RMUAZ03 /clone_end=3 /gb=AI170613 /gi=3710653 /ug=Rn.1540 /len=542	Mitochondrial matrix.	"10 kDa heat shock protein, mitochondrial (Hsp10) (10 kDa chaperonin)(CP N10)."
AI170613	6918	P26772	6919	XT5821	6920	Q04984	6921	90.29	Heat shock 10 kD protein 1 (chaperonin 10)	rc_AI170613 EST216547 Rattus norvegicus cDNA, 3' end /clone=RMUAZ03 /clone_end=3 /gb=AI170613 /gi=3710653 /ug=Rn.1540 /len=542	Mitochondrial matrix.	"10 kDa heat shock protein, mitochondrial (Hsp10) (10 kDa chaperonin)(CP N10)."
AI170613	6922	P26772	6923	XT5821	6924	Q04984	6925	90.29	Heat shock 10 kD protein 1 (chaperonin 10)	rc_AI170613 EST216547 Rattus norvegicus cDNA, 3' end /clone=RMUAZ03 /clone_end=3 /gb=AI170613 /gi=3710653 /ug=Rn.1540 /len=542	Mitochondrial matrix.	"10 kDa heat shock protein, mitochondrial (Hsp10) (10 kDa chaperonin)(CP N10)."
AI170613	6926	P26772	6927	XT5821	6928	Q04984	6929	90.29	Heat shock 10 kD protein 1 (chaperonin 10)	rc_AI170613 EST216547 Rattus norvegicus cDNA, 3' end /clone=RMUAZ03 /clone_end=3 /gb=AI170613 /gi=3710653 /ug=Rn.1540 /len=542	Mitochondrial matrix.	"10 kDa heat shock protein, mitochondrial (Hsp10) (10 kDa chaperonin)(CP N10)."

Table 2.

AI1706 13	6930	P26772	6931	XT5821	6932	Q04984	6933	90.29	Heat shock 10 kD protein 1 (chaperonin 10)	AB028853	rc_AI170613 EST216547 Rattus norvegicus cDNA, 3 end /clone=RMUAZ03 /clone_end=3 /gb=AI170613 /gl=3710653 /ug=Rn.1540 /len=542	Mitochondrial matrix	"10 kDa heat shock protein, mitochondrial (Hsp10) (10 kDa chaperonin)(CP N10)."
AI1706 85	6934	O35824	6935	NM_0058 80	6936	O60884	6937	86	mD3	AB028853	rc_AI170685 EST216621 Rattus norvegicus cDNA, 3 end /clone=RMUAZ92 /clone_end=3 /gb=AI170685 /gl=3710725 /ug=Rn.3904 /len=648	Membrane- bound.	DnaJ homolog subfamily A member 2 (RDJ2).
AI1711 67	6938	P55260	6939	M82809	6940	P09525	6941	86.94	annexin IV	NM_02415 5	rc_AI171167 EST217116 Rattus norvegicus cDNA, 3 end /clone=RMUBH08 /clone_end=3 /gb=AI171167 /gl=3711207 /ug=Rn.19270 /len=596		Annexin A4 (Annexin IV) (lipocortin IV) (36 kDa zymogen granulemembra ne associated protein) (ZAP36).
AI1712 43	6942	Q62728	6943	AF069072	6944	Q9Y2J2	6945	88.23	Rattus norvegicus mRNA for type II brain 4.1 minor isoform, complete cds		rc_AI171243 EST217198 Rattus norvegicus cDNA, 3 end /clone=RMUBI06 /clone_end=3 /gb=AI171243 /gl=3711283 /ug=Rn.8686 /len=631		
AI1712 43	6946	Q62728	6947	AF069072	6948	Q9Y2J2	6949	89.23	Rattus norvegicus mRNA for type II brain 4.1 minor isoform, complete cds		rc_AI171243 EST217198 Rattus norvegicus cDNA, 3 end /clone=RMUBI08 /clone_end=3 /gb=AI171243 /gl=3711283 /ug=Rn.8686 /len=631		

Table 2.

AI1712 68	6950	P41138	6951	X66924	6952	Q02535	6953	88.38	Inhibitor of DNA binding 3 (ldb3),	NM_00832	tc_AI171268 EST217223 Rattus norvegicus cDNA, 3 end /clone=RMUBI34 /clone_end=3 /gb=AI171268 /gb=3711308 /ug=Rn.2760 /len=589	Nuclear.	DNA-binding protein inhibitor ID-3.
AI1714 62	6954	Q07490	6955	AI860750	6956	A48986		84.52	CD24 antigen	Z11663	tc_AI171462 EST217424 Rattus norvegicus cDNA, 3 end /clone=RMUBI28 /clone_end=3 /gb=AI171462 /gb=3711502 /ug=Rn.6007. /len=480	Attached to the membrane by a GPI- anchor.	Signal transducer CD24 precursor (Heat stable antigen) (HSA)/Nectadlin ).
AI1714 62	6957	Q07490	6958	AI860750	6959	A48996		84.52	CD24 antigen	Z11663	tc_AI171462 EST217424 Rattus norvegicus cDNA, 3 end /clone=RMUBI28 /clone_end=3 /gb=AI171462 /gb=3711502 /ug=Rn.6007 /len=480	Attached to the membrane by a GPI- anchor.	Signal transducer CD24 precursor (Heat stable antigen) (HSA)/Nectadlin ).
AI1716 30	6960	P70616	6961	L36263	6962	Q16539	6963	91.28	p38 mitogen activated protein kinase (Mapk14)	NM_03102	tc_AI171630 EST217602 Rattus norvegicus cDNA, 3 end /clone=RMUBN50 /clone_end=3 /gb=AI171630 /gb=3711670 /ug=Rn.3293 /len=708		Mitogen- activated protein kinase 14 (EC 2.7.1.-) (Mitogen activatedprotein kinase p38) (MAP kinase p38).
AI1719 66	6964	CAA89	6965	U15085	6966	P28068	6967	85.8	RT1.Mb	Z49762	tc_AI171968 EST217960 Rattus norvegicus cDNA, 3 end /clone=RMUBT25 /clone_end=3 /gb=AI171968 /gb=3712006 /ug=Rn.5892 /len=663		

Table 2.

AI1720 17	6968	P11884	6969	K03001	6970	P05091	6971	88.77	Aldehyde dehydrogenas e 2, mitochondrial	NM_03241	rc_AI172017 EST218012 Rattus norvegicus cDNA, 3 end /clone=RMUBT91 /clone_end=3 /gb=AI172017 /gf=3712057 /ug=Rn.2300 /len=550	Mitochondrial matrix.	"Aldehyde dehydrogenase, mitochondrial precursor (EC 1.2.1.3) (ALDHclass 2) (ALDH1) (ALDH- E2)."
AI1720 17	6972	P11884	6973	K03001	6974	P05091	6975	88.77	Aldehyde dehydrogenas e 2, mitochondrial	NM_03241	rc_AI172017 EST218012 Rattus norvegicus cDNA, 3 end /clone=RMUBT91 /clone_end=3 /gb=AI172017 /gf=3712057 /ug=Rn.2300 /len=550	Mitochondrial matrix.	"Aldehyde dehydrogenase, mitochondrial precursor (EC 1.2.1.3) (ALDHclass 2) (ALDH1) (ALDH- E2)."
AI1722 47	6976	P22985	6977	D11456	6978	P47989	6979	86.3	xanthine dehydrogenas e (Xdh), mitochondrial	NM_01715	rc_AI172247 EST218247 Rattus norvegicus cDNA, 3 end /clone=RMUBW79 /clone_end=3 /gb=AI172247 /gf=3712287 /ug=Rn.7324 /len=471	Peroxisomal.	Xanthine dehydrogenase/ oxidase [includes: Xanthine dehydrogenase( EC 1.1.1.204) (XD); Xanthine oxidase (EC 1.1.3.22) (XO) (Xanthineoxidor eductase)].
AI1724 11	6980	P23764	6981	A1245240	6982	P22352	6983	89	Plasma glutathione peroxidase precursor	rc_AI172411 EST218418 Rattus norvegicus cDNA, 3 end /clone=RMUBZ17 /clone_end=3 /gb=AI172411 /gf=3712451 /ug=Rn.1491 /len=617	Extracellular.	Plasma glutathione peroxidase precursor (EC 1.11.1.9) (GSHPx-P).	

Table 2.

AI1757 64	6984	P07308	6985	AF097514	6986	C00767	6987	85	Rat liver stearyl-CoA desaturase mRNA, complete cds	rc_AI175764 EST219331 Rattus norvegicus cDNA, 3' end /clone=ROVBF01 /clone_end=3 /gb=AI175764 /ug=Rn.10982 /len=441	Integral membrane protein. Endoplasmic reticulum.	Acyl-CoA desaturase (EC 1.14.99.5) (Stearoyl-CoA desaturase) (Fattyacid desaturase) (Delta(9)- desaturase).
AI1759 35	6988	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			Mus musculus adult male cecum cDNA, RIKEN	rc_AI175935 EST219508 Rattus norvegicus cDNA, 3' end /clone=ROVBH40 /clone_end=3 /gb=AI175935 /ug=Rn.8737 /len=448		
AI1760 21	6989	NP_032 986	6990	BI823499	6991	XM_034 848		95.77	Mus musculus phosphatase and tensin homolog	rc_AI176021 EST219597 Rattus norvegicus cDNA, 3' end /clone=ROVB453 /clone_end=3 /gb=AI176021 /ug=Rn.22158 /len=566		
AI1760 52	6992	P28411	6993	AB021870	6994	CBUIJ7	6995	89	Adenylyate kinase 3	rc_AI176052 EST219628 Rattus norvegicus cDNA, 3' end /clone=ROVB490 /clone_end=3 /gb=AI176052 /ug=Rn.60 /len=587	Mitochondrial matrix.	GTP-AMP phosphotransfer ase mitochondrial (EC 2.7.4.10) (AK3).
AI1761 70	6996	Q82656	6997	XM_01666 0		XP_016 660			Mus musculus, FK506 binding protein 1a	rc_AI176170 EST219751 Rattus norvegicus cDNA, 3' end /clone=ROVBL77 /clone_end=3 /gb=AI176170 /ug=Rn.1740 /len=469	Cytoplasmic.	FK506-binding protein (FKBP- 12) (Peptidyl- prolyl cis-trans isomerase)(EC 5.2.1.8) (PPIase) (Rotamase) (Intrunophilin FKBP12).

Table 2.

AI1763 61	6998	Q84560	6998	BF511874	7000	P29144	7001	91.62	Tripeptidylpeptidase II	rc_AI176351 ESTZ19834 Rattus norvegicus cDNA, 3 end /clone=ROVBQ51 /clone_end=3 /gb=AI176351 /ug=Rn.11265 /len=540	Cytoplasmic.	Tripeptidyl-peptidase II (EC 3.4.14.10) (TPP-II) (Tripeptidylaminopeptidase) (Cholecystokinin-inactivating peptidase).
AI1763 61	7002	Q84560	7003	BF511874	7004	P29144	7005	91.62	Tripeptidylpeptidase II	rc_AI176351 ESTZ19834 Rattus norvegicus cDNA, 3 end /clone=ROVBQ51 /clone_end=3 /gb=AI176351 /ug=Rn.11265 /len=540	Cytoplasmic.	Tripeptidyl-peptidase II (EC 3.4.14.10) (TPP-II) (Tripeptidylaminopeptidase) (Cholecystokinin-inactivating peptidase).
AI1764 22	7006	No Rat Protein Found.	BE172552	7007	NP_004444	7008	95.07	ESTs, Highly similar to 2008241A flavoprotein ubiquinone oxidoreductase [H.sapiens]	rc_AI176422 ESTZ20006 Rattus norvegicus cDNA, 3 end /clone=ROVBR53 /clone_end=3 /gb=AI176422 /ug=Rn.4044 /len=430			
AI1764 22	7009	No Rat Protein Found.	BE172552	7010	NP_004444	7011	95.07	ESTs, Highly similar to 2006241A flavoprotein ubiquinone oxidoreductase [H.sapiens]	rc_AI176422 ESTZ20006 Rattus norvegicus cDNA, 3 end /clone=ROVBR53 /clone_end=3 /gb=AI176422 /ug=Rn.4044 /len=430			

Table 2.

AI1764 61	7012	Q62638	7013	U64791	7014	Q82886	7015	96	selectin, endothelial cell, ligand (Glg1),	NM_017211	rc_A1176461 EST220046 Rattus norvegicus cDNA, 3' end /clone=ROVBS09 /clone_end=3 /gb=A1176461 /ug=Rn.10507 /len=534	TYPE I MEMBRANE PROTEIN; GOLGI MEDIAL CISTERNAE	Golgi apparatus protein 1 precursor (Golgi stialoglycoprotein in MG-160)(E- selectin ligand 1) (ESL-1).
AI1764 88	7016	BAA252 92	7017	U85193	7018	C00712	7019	96.19	NF1-B3	AB012232	rc_A1176488 EST220073 Rattus norvegicus cDNA, 3' end /clone=ROVBS47 /clone_end=3 /gb=A1176488 /ug=Rn.9909 /len=650		
AI1764 91	7020	NP_079 799	7021	XM_04074 7		XP_040 747			Mus musculus NADH dehydrogenas e (ubiquinone) 1, subcomplex unknown, 1 (Ndufc1), mRNA	NM_025523	rc_A1176491 EST220076 Rattus norvegicus cDNA, 3' end /clone=ROVBS52 /clone_end=3 /gb=A1176491 /ug=Rn.8096 /len=575		
AI1765 04	7022	P13264	7023	AF097495	7024	O94925	7025	97.58	glutaminase	M65150	rc_A1176504 EST220089 Rattus norvegicus cDNA, 3' end /clone=ROVBS73 /clone_end=3 /gb=A1176504 /ug=Rn.5762 /len=658	Mitochondrial	"Glutaminase, kidney isoform, mitochondrial precursor (EC 3.5.1.2)(GLS) (L- glutamine amidohydrolase ) (K- glutaminase)."
AI1765 89	7026	P08526	7027	BG939205	7028	Q9P2X0	7029	92.45	Ribosomal protein L27		rc_A1176589 EST220177 Rattus norvegicus cDNA, 3' end /clone=ROVBU24 /clone_end=3 /gb=A1176589 /ug=Rn.1254 /len=536		60S ribosomal protein L27.

Table 2.

AI1765 88	7030	P08526	7031	BG939205	7032	Q9P2X0	7033	92.45	Ribosomal protein L27	rc_A1176589 EST220177 Rattus norvegicus cDNA, 3' end /clone=ROVB24 /clone_end=3 /gb=A1176589 /ug=Rn.1254 /len=538	60S ribosomal protein L27.
AI1765 89	7034	P08526	7035	BG939205	7036	Q9P2X0	7037	92.45	Ribosomal protein L27	rc_A1176589 EST220177 Rattus norvegicus cDNA, 3' end /clone=ROVB24 /clone_end=3 /gb=A1176589 /ug=Rn.1254 /len=536	60S ribosomal protein L27.
AI1765 89	7038	P08526	7039	BG939205	7040	Q9P2X0	7041	92.45	Ribosomal protein L27	rc_A1176589 EST220177 Rattus norvegicus cDNA, 3' end /clone=ROVB24 /clone_end=3 /gb=A1176589 /ug=Rn.1254 /len=536	60S ribosomal protein L27.
AI1766 88	7042	AAK534 28	7043	D87905	7044	P52564	7045	90.26	Mitogen- activated protein kinase 6	AF369384 rc_A1176689 EST220282 Rattus norvegicus cDNA, 3' end /clone=ROVB58 /clone_end=3 /gb=A1176689 /ug=Rn.17256 /len=597	
AI1768 66	7046	Q84678	7047	U03688	7048	Q16678	7049	84.84	Cytochrome P450 1b1	rc_A1176858 EST220459 Rattus norvegicus cDNA, 3' end /clone=ROVBX74 /clone_end=3 /gb=A1176858 /ug=Rn.10125 /len=666	Membrane- bound. Endoplasmic reticulum.
AI1770 04	7050	P17425	7051	BC000287	7052	Q01581	7053	90.24	3-hydroxy-3- methylglutaryl- Coenzyme A synthase 1	rc_A1177004 EST220611 Rattus norvegicus cDNA, 3' end /clone=ROVBZ64 /clone_end=3 /gb=A1177004 /ug=Rn.5106 /len=332	Cytoplasmic.

Cytochrome  
P450 1B1 (EC  
1.14.14.1)  
(CYP1B1)  
(P450RAP).  
"Hydroxymethyl  
glutaryl-CoA  
synthase,  
cytoplasmic (EC  
4.1.3.5) (HMG-  
CoA synthase)  
(3-hydroxy-3-  
methylglutaryl  
coenzyme A  
synthase)."



Table 2.

AI1770 04	7054	P17425	7055	BC000297	7056	Q01581	7057	80.24	3-hydroxy-3-methylglutaryl-coenzyme A synthase 1	rc_AI177004 EST220611 Rattus norvegicus /cdna_3 end /clone=ROVCB64 /clone_end=3 /gb=AI177004 /ug=Rn.5106 /len=332	Cytoplasmic.	"Hydroxymethylglutaryl-CoA synthase, cytoplasmic (EC 4.1.3.5) (HMG-CoA synthase) (3-hydroxy-3-methylglutaryl coenzyme A synthase)."
AI1771 61	7058	OS4988	7059	ST4017	7060	Q16236	7061	82	NF-E2-related factor 2	rc_AI177161 EST220768 Rattus norvegicus /cdna_3 end /clone=ROVCB60 /clone_end=3 /gb=AI177161 /ug=Rn.10867 /len=616	Nuclear.	"Nuclear factor erythroid 2 related factor 2 (NF-E2 related factor 2)(NFE2-related factor 2) (Nuclear factor, erythroid derived 2, like 2)."
AI1771 61	7062	OS4988	7063	ST4017	7064	Q16236	7065	82	NF-E2-related factor 2	rc_AI177161 EST220768 Rattus norvegicus /cdna_3 end /clone=ROVCB60 /clone_end=3 /gb=AI177161 /ug=Rn.10867 /len=616	Nuclear.	"Nuclear factor erythroid 2 related factor 2 (NF-E2 related factor 2)(NFE2-related factor 2) (Nuclear factor, erythroid derived 2, like 2)."

Table 2.

AI1774 04	7066	AAF739 53	7067	AK001595	7068	CAC432 28	7069	95.65	Mus musculus acetyltransferase Tubedown- 1 mRNA	AF237622	rc_A1177404 EST221024 Rattus norvegicus cDNA, 3' end /clone=RPLBY70 /clone_end=3 /gb=A1177404 /ug=Rn.12587 /len=684		
AI1774 04	7070	AAF739 53	7071	AK001595	7072	CAC432 28	7073	95.65	Mus musculus acetyltransferase Tubedown- 1 mRNA	AF237622	rc_A1177404 EST221024 Rattus norvegicus cDNA, 3' end /clone=RPLBY70 /clone_end=3 /gb=A1177404 /ug=Rn.12587 /len=684		
AI1776 83	7074	CAA76 339	7075	AW36340 4	7076	P51991	7077	100	hnRNP	Y16641	rc_A1177683 EST221324 Rattus norvegicus cDNA, 3' end /clone=RPLCE51 /clone_end=3 /gb=A1177683 /ug=Rn.3824 /len=434		
AI1777 51	7078	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			Mus musculus 10 days embryo cDNA, RIKEN		rc_A1177751 EST221393 Rattus norvegicus cDNA, 3' end /clone=RPLCF64 /clone_end=3 /gb=A1177751 /ug=Rn.5896 /len=586		
AI1779 86	7079	Q07205	7080	NM_0019 69	7081	P55010	7082	80	eukaryotic initiation factor 5 (eIF-5)	NM_02007	rc_A1177986 EST221642 Rattus norvegicus cDNA, 3' end /clone=RPLCJ54 /clone_end=3 /gb=A1177986 /ug=Rn.3508 /len=536		
AI1781 35	7083	Q35796	7084	XM_01287 6	7085	XP_012 676	7086	78	complement component 1	NM_01925	rc_A1178135 EST221798 Rattus norvegicus cDNA, 3' end /clone=RPLCM57 /clone_end=3 /gb=A1178135 /ug=Rn.2765 /len=578	Mitochondrial	Eukaryotic translation initiation factor 5 (eIF-5).
AI1782 04	7087	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_A1178204 EST221869 Rattus norvegicus cDNA, 3' end /clone=RPLCN48 /clone_end=3 /gb=A1178204 /ug=Rn.221 /len=520		"Complement component 1, Q subcomponent binding protein, mitochondrial precursor (Glycoprotein GC1QBP) (GC1Q-R protein)." protein).

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Table 2.

AI1802 88	7111	P02761	7112	D90452	7113	Q05682	7114	90.15	Caldesmon 1	NM_01314 6	rc_A1180288 ESTT24031 Rattus norvegicus cDNA, 3 end /clone=RSPCS84 /clone_end=3 /gb=A1180288 /ug=Rn.10621 /len=417	15.5 kDa FABP IS CYTOSOLIC.	Major urinary protein precursor (MUP) (Alpha- 2u-globulin)
AI1802 88	7115	P02761	7116	D90452	7117	Q05682	7118	90.15	Caldesmon 1	NM_01314 6	rc_A1180288 ESTT24031 Rattus norvegicus cDNA, 3 end /clone=RSPCS84 /clone_end=3 /gb=A1180288 /ug=Rn.10621 /len=417	15.5 kDa FABP IS CYTOSOLIC.	Major urinary protein precursor (MUP) (Alpha- 2u-globulin)
AI1803 86	7119	O56081	7120	AK023320	7121	CAA536 61	7122	90.43	retinoblastom a-like 2 (p130)	NM_03109 4	rc_A1180398 ESTT24140 Rattus norvegicus cDNA, 3 end /clone=RSPCX16 /clone_end=3 /gb=A1180398 /ug=Rn.11020 /len=554	Nuclear.	Retinoblastoma- like protein 2 (130 kDa retinoblastoma- associated protein) (PRB2) (P130) (RBR-2).

Table 2.

AI180424	7123	P35215	7124	AW674116	7125	NP_006762	7126	86.68	lysine 3-monooxygenase/tyrosine 5-monooxygenase activation protein, zeta polypeptide	NM_013011	re_AI180424 EST224170 Rattus norvegicus cDNA, 3' end /clone=RSPCX52 /clone_end=3 /gb=AI180424 /ug=Rn.1292 /len=681	Cytoplasmic.	14-3-3 protein zeta/delta (protein kinase C inhibitor protein-1)(KCIP-1) (Mitochondrial import stimulation factor S1 subunit).
AI180442	7127	P06369	7128	J05262	7129	P14324	7130	85	Testis-specific farnesyl pyrophosphate synthetase		re_AI180442 EST224188 Rattus norvegicus cDNA, 3' end /clone=RSPCX75 /clone_end=3 /gb=AI180442 /ug=Rn.2622 /len=646	Cytoplasmic.	Farnesyl pyrophosphate synthetase (FPP synthetase) (FPS) (Farnesyl/diphosphate synthetase) (Cholesterol-regulated 39 kDa protein) (CR 39)[Includes: Dimethylallyltransferase (EC 2.5.1.1), Geranyl transferase]

[illegible]

Table 2.

AI2284 07	7143	P13589	7144	AI039638	7145	Q89653	7146	94.12	pituitary adenylate cyclase activating polypeptide 1	rc_AI228407 EST225102 Rattus norvegicus cDNA, 3 end /clone=RBRCU35 /clone_end=3 /gb=AI228407 /ug=Rn.3389 /len=496	Pituitary adenylate cyclase activating polypeptide precursor (PACAP)[Contai ns: PACAP- related peptide (PRP-48)]. Pituitary adenylate cyclaseactivat g polypeptide- 27 (PACAP-27) (PACAP27); Pituitary aden
AI2285 99	7147	P41516	7148	AK024080	7149	P11388	7150	91.3	topoisomerase II alpha (Top2a), NM_022163	rc_AI228599 EST225294 Rattus norvegicus cDNA, 3 end /clone=RBRCW95 /clone_end=3 /gb=AI228599 /ug=Rn.3877 /len=572	Nuclear. cDNA topoisomerase II, alpha isozyme (EC 5.99.1.3).*
AI2286 75	7151	O70436	7152	U68018	7153	Q15798	7154	91.46	MAD homolog 2 (Drosophila) NM_019191	rc_AI228675 EST225370 Rattus norvegicus cDNA, 3 end /clone=RBRCX95 /clone_end=3 /gb=AI228675 /ug=Rn.2755 /len=545	IN THE CYTOPLAS M IN THE ABSENCE OF LIGAND; MIGRATION TO THE NUCLEUS WHEN COMPLEXE D WITH SMAD4.

Table 2.

AI2287	7155	Q62658	7156	NM_0008	7167	P20071	7168	96	FK508-binding protein 1 (12KD)	NM_01310	rc_AI228736 EST225433 Rattus norvegicus cDNA, 3 end /clone=RBRCY78 /clone_end=3 /gb=AI228736 /ug=Rn.2792 /len=495	Cytoplasmic.	FK508-binding protein (FKBP, 12) (Peptidyl-prolyl cis-trans isomerase)(EC 5.2.1.8) (PPIase) (Rotamase) (immunophilin FKBP12).
AI2284	7159	No Rat Protein Found.		NM_0045	7160	O86000	7161	ESTs, Moderately similar to NADH dehydrogenase [H.sapiens]	rc_AI228497 EST226192 Rattus norvegicus cDNA, 3 end /clone=REMC427 /clone_end=3 /gb=AI228497 /ug=Rn.2867 /len=444				
AI2294	7162	No Rat Protein Found.		NM_0045	7163	O86000	7164	ESTs, Moderately similar to NADH dehydrogenase [H.sapiens]	rc_AI228497 EST226192 Rattus norvegicus cDNA, 3 end /clone=REMC427 /clone_end=3 /gb=AI228497 /ug=Rn.2867 /len=444				
AI2286	7165	NP_113	7166	XM_02780	XP_027	809	57	MYB binding protein	NM_03166	rc_AI229637 EST226332 Rattus norvegicus cDNA, 3 end /clone=REMCJ75 /clone_end=3 /gb=AI229637 /ug=Rn.6681 /len=546			
AI2289	7167	NP_080	7168	XP_01002	XM_010	025	24	ESTs, Moderately similar to NB4M_HUMAN NADH-UBIQUINONE OXIDOREDUCTASE B14 SUBUNIT [H.sapiens]	rc_AI228924 EST226619 Rattus norvegicus cDNA, 3 end /clone=REMCQ41 /clone_end=3 /gb=AI228924 /ug=Rn.4013 /len=489				





Table 2.

AI230572	7180	P27817	7181	AI915610	7182	I39382	68.37	Y box protein 1	rc_AI230572 EST227267 Rattus norvegicus cDNA, 3 end /clone=REMCY30 /len=317	Nuclear.	Nuclease sensitive element binding protein 1 (Y box binding protein-1)(Y-box transcription factor)(YB-1)(CCAAT-binding transcription factor or 1 subunit A)(CBF-A)(Enhancer factor 1 subunit A)(EFLA)
AI230748	7183	P14701	7184	NM_003295	7185	P13693	95	lens epithelial protein	rc_AI230748 EST227443 Rattus norvegicus cDNA, 3 end /clone=REMDA73 /len=643	Cytoplasmic.	Translationally controlled tumor protein (TCTP)(p23)(21 kDapolyptide)(p21)(Lens epithelial protein).
AI231007	7187	BAA22932	7188	AK026246	7189	NP_061137	89.2	CCA1 protein	rc_AI231007 EST227695 Rattus norvegicus cDNA, 3 end /clone=REMD15 /len=527		
AI231213	7191	O70352	7192	NM_002231	7193	P27701	62	kangai 1 (suppression of tumorigenicity 6), prostate (Kai1)	rc_AI231213 EST227901 Rattus norvegicus cDNA, 3 end /clone=REMDH23 /len=582	Integral membrane protein.	CD62 antigen (Metastasis suppressor homolog).

Table 2.

AI2312	7195	O70352	7196	NM_0022	7197	P27701	7198	62	Kangal 1 (suppression of tumorigenicity 8), prostate (Kali)	NM_03179	rc_AI231213 EST227901 Rattus norvegicus cDNA, 3 end /clone=REMDH23 /len=582	Integral membrane protein.	CD82 antigen (Metastasis suppressor homolog).
AI2312	7199	P14841	7200	NM_0000	7201	P01034	7202	72	Cysteine proteinase inhibitor cystatin C	X16957	rc_AI231292 EST227980 Rattus norvegicus cDNA, 3 end /clone=REMD126 /clone_end=3 /gb=AI231292 /ug=Rn.956 /len=659		Cystatin C precursor (Fragment).
AI2312	7203	P14841	7204	NM_0000	7205	P01034	7206	72	Cysteine proteinase inhibitor cystatin C	X16957	rc_AI231292 EST227980 Rattus norvegicus cDNA, 3 end /clone=REMD126 /clone_end=3 /gb=AI231292 /ug=Rn.956 /len=659		Cystatin C precursor (Fragment).
AI2313	7207	P49186	7208	L31951	7209	P45984	7210	93.85	Stress activated protein kinase alpha II		rc_AI231354 EST228042 Rattus norvegicus cDNA, 3 end /clone=REMDJ02 /clone_end=3 /gb=AI231354 /ug=Rn.9910 /len=521		Mitogen- activated protein kinase 9 (EC 2.7.1.-) (Stress- activated protein kinase JNK2) (c- Jun N-terminal kinase 2) (SAPK-alpha) (p54-alpha).
AI2313	7211	P49186	7212	L31951	7213	P45984	7214	93.85	Stress activated protein kinase alpha II		rc_AI231354 EST228042 Rattus norvegicus cDNA, 3 end /clone=REMDJ02 /clone_end=3 /gb=AI231354 /ug=Rn.9910 /len=521		Mitogen- activated protein kinase 9 (EC 2.7.1.-) (Stress- activated protein kinase JNK2) (c- Jun N-terminal kinase 2) (SAPK-alpha) (p54-alpha).

Table 2.

AI2313 54	7215	P49186	7216	L31951	7217	P45984	7218	93.85	Stress activated protein kinase alpha II	tc_AI231354 EST228042 Rattus norvegicus cDNA, 3' end /clone=REMDDJ02 /clone_end=3 /gb=AI231354 /ug=Rn.9910 /len=521	Mitogen- activated protein kinase 9 (EC 2.7.1.-) (Stress- activated protein kinase JNK2) (c- Jun N-terminal kinase 2) (SAPK-alpha) (p54-alpha).
AI2313 54	7219	P49186	7220	L31951	7221	P45984	7222	93.85	Stress activated protein kinase alpha II	tc_AI231354 EST228042 Rattus norvegicus cDNA, 3' end /clone=REMDDJ02 /clone_end=3 /gb=AI231354 /ug=Rn.9910 /len=521	Mitogen- activated protein kinase 9 (EC 2.7.1.-) (Stress- activated protein kinase JNK2) (c- Jun N-terminal kinase 2) (SAPK-alpha) (p54-alpha).
AI2313 54	7223	P49186	7224	L31951	7225	P45984	7226	93.85	Stress activated protein kinase alpha II	tc_AI231354 EST228042 Rattus norvegicus cDNA, 3' end /clone=REMDDJ02 /clone_end=3 /gb=AI231354 /ug=Rn.9910 /len=521	Mitogen- activated protein kinase 9 (EC 2.7.1.-) (Stress- activated protein kinase JNK2) (c- Jun N-terminal kinase 2) (SAPK-alpha) (p54-alpha).

Table 2.

AI2313 54	7227	P49186	7228	L31951	7229	P45984	7230	93.85	Stress activated protein kinase alpha II	rc_AI231354 EST228042 Rattus norvegicus cDNA, 3' end /clone=REMDDJ02 /clone_end=3 /gb=AI231354 /ug=Rn.9910 /len=521	Mitogen- activated protein kinase 9 (EC 2.7.1.-) (Stress- activated protein kinase JNK2) (c- Jun N-terminal kinase 2) (SAPK-alpha) (p54-alpha).
AI2313 54	7231	P49186	7232	L31951	7233	P45984	7234	93.85	Stress activated protein kinase alpha II	rc_AI231354 EST228042 Rattus norvegicus cDNA, 3' end /clone=REMDDJ02 /clone_end=3 /gb=AI231354 /ug=Rn.9910 /len=521	Mitogen- activated protein kinase 9 (EC 2.7.1.-) (Stress- activated protein kinase JNK2) (c- Jun N-terminal kinase 2) (SAPK-alpha) (p54-alpha).
AI2313 54	7235	P49186	7236	L31951	7237	P45984	7238	93.85	Stress activated protein kinase alpha II	rc_AI231354 EST228042 Rattus norvegicus cDNA, 3' end /clone=REMDDJ02 /clone_end=3 /gb=AI231354 /ug=Rn.9910 /len=521	Mitogen- activated protein kinase 9 (EC 2.7.1.-) (Stress- activated protein kinase JNK2) (c- Jun N-terminal kinase 2) (SAPK-alpha) (p54-alpha).

Table 2.

AI2313 75	7239	P15978	7240	No human homolog found.	No Human Protein Found.		R. norvegicus mRNA for RT1.A.3(O) alpha chain	X90374	rc_AI231375 EST228063 Rattus norvegicus cDNA, 3' end /clone=REMIDJ29 /clone_end=3 /gb=AI231375 /ug=Rn.7198 /len=592		"Class I histocompatibility antigen, Non-RT1.A. alpha-1 chain precursor."
AI2314 45	7241	P18395	7242	AY049788	7243	O75534	7244	94.37	Rat unr mRNA for unr protein with unknown function	rc_AI231445 EST228133 Rattus norvegicus cDNA, 3' end /clone=REMIDK26 /clone_end=3 /gb=AI231445 /ug=Rn.3562 /len=528	Cytoplasmic.
AI2314 45	7245	P18395	7246	AY049788	7247	O75534	7248	94.37	Rat unr mRNA for unr protein with unknown function	rc_AI231445 EST228133 Rattus norvegicus cDNA, 3' end /clone=REMIDK26 /clone_end=3 /gb=AI231445 /ug=Rn.3562 /len=528	Cytoplasmic.
AI2320 12	7249	BAB223	7250	BC001016	7251	P51970	7252	89.57	Homo sapiens NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 8	rc_AI232012 EST228700 Rattus norvegicus cDNA, 3' end /clone=RHECR46 /clone_end=3 /gb=AI232012 /ug=Rn.1128 /len=586	

Table 2.

AI2320 78	7253	Q00918	7254	AF039843	7255	Q43597	7256	94.31	Transforming growth factor-beta (TGF-beta) masking protein large subunit	NM_02158	rc_AI232078 ESTT228766 Rattus norvegicus cDNA, 3 end /clone=RKIBW60 /clone_end=3 /gb=AI232078 /lgb=Rn.11340 /len=597	"Latent transforming growth factor beta binding protein 1 precursor(Trans forming growth factor beta-1 binding protein 1) (TGF-beta1-BP-1) (Transforming growth factor beta-1 masking protein, large subunit"
AI2320 86	7257	Q63424	7258	NM_0210	7259	Q16348	7260	76	Solute carrier family 15 (H+/peptide transporter), member 2	NM_03167	rc_AI232086 ESTT228784 Rattus norvegicus cDNA, 3 end /clone=RKIBW79 /clone_end=3 /gb=AI232086 /lgb=Rn.2583 /len=594	Integral membrane protein.
AI2323 21	7261	No Rat Protein Found.	No human homolog found.	No	Human Protein Found.				Mus musculus 13 days embryo liver cDNA, RIKEN	rc_AI232321 ESTT229009 Rattus norvegicus cDNA, 3 end /clone=RKICA22 /clone_end=3 /gb=AI232321 /lgb=Rn.24630 /len=590		
AI2323 74	7262	P43278	7263	NM_0053	7264	P07305	7265	85	histone H1-0	NM_01257	rc_AI232374 ESTT229082 Rattus norvegicus cDNA, 3 end /clone=RKICA88 /clone_end=3 /gb=AI232374 /lgb=Rn.3129 /len=608	Nuclear.
AI2323 74	7266	P43278	7267	NM_0053	7268	P07305	7269	85	histone H1-0	NM_01257	rc_AI232374 ESTT229062 Rattus norvegicus cDNA, 3 end /clone=RKICA88 /clone_end=3 /gb=AI232374 /lgb=Rn.3129 /len=609	Nuclear.

Table 2.

AI233261	7270	P48508	7271	L35546	7272	P48507	7273	91.6	Glutamate-cysteine ligase (gamma-glutamyl/cysteine synthetase), regulatory	rc_AI233261 EST229949 Rattus norvegicus cDNA, 3' end /clone=RKIDC84 /clone_end=3 /gb=AI233261 /ug=Rn.2460 /len=629	Glutamate-cysteine ligase regulatory subunit (EC 6.3.2.2) (Gamma-glutamyl/cysteine synthetase) (Gamma-ECS) (GCS light chain)(Glutamate-cysteine ligase modifier subunit).
AI233261	7274	P48508	7275	L35546	7276	P48507	7277	91.6	Glutamate-cysteine ligase (gamma-glutamyl/cysteine synthetase), regulatory	rc_AI233261 EST229949 Rattus norvegicus cDNA, 3' end /clone=RKIDC84 /clone_end=3 /gb=AI233261 /ug=Rn.2460 /len=629	Glutamate-cysteine ligase regulatory subunit (EC 6.3.2.2) (Gamma-glutamyl/cysteine synthetase) (Gamma-ECS) (GCS light chain)(Glutamate-cysteine ligase modifier subunit).
AI234950	7278	P20611	7279	BC003160	7280	P11117	7281	86	Acid phosphatase 2, lysosomal	NM_016988 rc_AI234950 EST231512 Rattus norvegicus cDNA, 3' end /clone=ROVCJ96 /clone_end=3 /gb=AI234950 /ug=Rn.9816 /len=501	Lysosomal. Lysosomal acid phosphatase precursor (EC 3.1.3.2) (LAP).
AI235358	7282	No Rat Protein Found.		J04973	7283	P22695	7284	86.05	Cytochrome bc-1 complex core P	ST4321 rc_AI235358 EST231920 Rattus norvegicus cDNA, 3' end /clone=ROVCQ84 /clone_end=3 /gb=AI235358 /ug=Rn.2334 /len=554	



Table 2.

AI2357 07	7285	P35565	7286	L10284	7287	P27824	7288	84	ESTs, Highly similar to CALX RAT CALNEXIN PRECURSOR [R.norvegicus]	rc_AI235707 EST232269 Rattus norvegicus cDNA, 3 end /clone=ROVCW10 /len=471	
AI2357 07	7289	P35565	7280	L10284	7291	P27824	7292	84	ESTs, Highly similar to CALX RAT CALNEXIN PRECURSOR [R.norvegicus]	rc_AI235707 EST232269 Rattus norvegicus cDNA, 3 end /clone=ROVCW10 /clone_end=3 /gb=AI235707 /ug=Rn.1762 /len=471	
AI2357 07	7293	P35565	7294	L10284	7295	P27824	7296	84	ESTs, Highly similar to CALX RAT CALNEXIN PRECURSOR [R.norvegicus]	rc_AI235707 EST232269 Rattus norvegicus cDNA, 3 end /clone=ROVCW10 /clone_end=3 /gb=AI235707 /ug=Rn.1762 /len=471	
AI2357 07	7287	P35565	7298	L10284	7299	P27824	7300	84	ESTs, Highly similar to CALX RAT CALNEXIN PRECURSOR [R.norvegicus]	rc_AI235707 EST232269 Rattus norvegicus cDNA, 3 end /clone=ROVCW10 /clone_end=3 /gb=AI235707 /ug=Rn.1762 /len=471	
AI2357 47	7301	P04804	7302	NM_000847	7303	Q16772	7304	89.73	Glutathione S-transferase Ya subunit	rc_AI235747 EST232309 Rattus norvegicus cDNA, 3 end /clone=ROVCW57 /clone_end=3 /gb=AI235747 /ug=Rn.1024 /len=533	Cytoplasmic.
AI2372 58	7305	NP_113856	7306	XM_027809	XP_027808			57	MYB binding protein (P160) 1a	rc_AI237258 EST233820 Rattus norvegicus cDNA, 3 end /clone=RPLCV74 /clone_end=3 /gb=AI237258 /ug=Rn.6881 /len=434	Glutathione S-transferase Yc-1 (EC 2.5.1.18) (Chain 2) (GST Yc1) (GST class-alpha).

Table 2.

AI2376	7307	No Rat Protein Found.	AW60196	7308	XP_002093	7309	90.78	Rattus norvegicus clone NZ7 mRNA	U30789	re AI237654 EST234216 Rattus norvegicus cDNA, 3' end /clone=RP1DB93 /clone_end=3 /bp=AI237654 /ug=Rn.2758 /len=689
AI6389	7310	No Rat Protein Found.	No human homolog found.	No Human Protein Found.				Homo sapiens, clone MGC:16797 IMAGE:38579		Rat mixed-tissue library Rattus norvegicus cDNA clone r200769 3', mRNA sequence [Rattus norvegicus]
AI6389	7311	AAK642 87	AL009266	7313	O43251	7314	96.88	RNA binding motif protein 9 (RBM9),	BC002124	Rat mixed-tissue library Rattus norvegicus cDNA clone r03289 3', mRNA sequence [Rattus norvegicus]
AI6389	7315	AAK642 87	AL009266	7317	O43251	7318	96.88	RNA binding motif protein 9 (RBM9),	BC002124	Rat mixed-tissue library Rattus norvegicus cDNA clone r03289 3', mRNA sequence [Rattus norvegicus]
AI6389	7319	No Rat Protein Found.	No human homolog found.	No Human Protein Found.				EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone r00189 3', mRNA sequence [Rattus norvegicus]
AI6389	7320	No Rat Protein Found.	AK027250	7321	No Human Protein Found.		90.18	EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone r00809 3', mRNA sequence [Rattus norvegicus]
AI6389	7322	No Rat Protein Found.	AK027250	7323	No Human Protein Found.		90.18	EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone r00909 3', mRNA sequence [Rattus norvegicus]
AI6389	7324	No Rat Protein Found.	No human homolog found.	No Human Protein Found.				EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone r04769 3', mRNA sequence [Rattus norvegicus]
AI6389	7325	NP_034358	NM_002019	7327	Q15942	7328	78	Mus musculus FMS-like tyrosine kinase 1 (Ftk1)	NM_010228	Rat mixed-tissue library Rattus norvegicus cDNA clone r02348 3', mRNA sequence [Rattus norvegicus]

Table 2.

AI6389 89	7329	AAD04 329	7330	XM_03173 6	XP_031 736			Mus musculus strain C57BL/6 zinc finger protein 106	AF060246	Rat mixed-tissue library Rattus norvegicus cDNA clone x01268 3, mRNA sequence [Rattus norvegicus]
AI6389 97	7331	No Rat Protein Found.		XM_04608 4	XP_046 094	7333		Homo sapiens hypothetical protein FLJ20086		Rat mixed-tissue library Rattus norvegicus cDNA clone x05048 3, mRNA sequence [Rattus norvegicus]
AI6390 01	7334	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		EST (not recognized)			Rat mixed-tissue library Rattus norvegicus cDNA clone x02427 3, mRNA sequence [Rattus norvegicus]
AI6390 01	7335	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		EST (not recognized)			Rat mixed-tissue library Rattus norvegicus cDNA clone x03287 3, mRNA sequence [Rattus norvegicus]
AI6390 02	7336	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		EST (not recognized)			Rat mixed-tissue library Rattus norvegicus cDNA clone x03287 3, mRNA sequence [Rattus norvegicus]
AI6390 19	7337	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		EST (not recognized)			Rat mixed-tissue library Rattus norvegicus cDNA clone x01107 3, mRNA sequence [Rattus norvegicus]
AI6390 23	7338	AAC60 679	7339	AI346263	XP_046 406		89.32 K/3.3b=Shaw type potassium channel (alternatively spliced) (mouse)	S69381		Rat mixed-tissue library Rattus norvegicus cDNA clone x01887 3, mRNA sequence [Rattus norvegicus]
AI6390 34	7341	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		Mus musculus X chromosome			Rat mixed-tissue library Rattus norvegicus cDNA clone x02766 3, mRNA sequence [Rattus norvegicus]

Table 2.

AI6390 76	7342	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone r04025 3, mRNA sequence [Rattus norvegicus]
AI6390 79	7343	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone r04945 3, mRNA sequence [Rattus norvegicus]
AI6390 88	7344	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone r00364 3, mRNA sequence [Rattus norvegicus]
AI6390 87	7345	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone r01264 3, mRNA sequence [Rattus norvegicus]
AI6391 02	7346	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone r01844 3, mRNA sequence [Rattus norvegicus]
AI6391 14	7347	No Rat Protein Found.	AI192090	No Human Protein Found.	EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone r05044 3, mRNA sequence [Rattus norvegicus]
AI6391 18	7349	184505	AK000768	BAB134 17	90.37	Rat mixed-tissue library Rattus norvegicus cDNA clone r02683 3, mRNA sequence [Rattus norvegicus]
AI6391 18	7352	184505	AK000768	BAB134 17	90.37	Rat mixed-tissue library Rattus norvegicus cDNA clone r02883 3, mRNA sequence [Rattus norvegicus]

Table 2.

A16391 20	7355	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognised)		Rat mixed-tissue library Rattus norvegicus cDNA clone r02423 3, mRNA sequence [Rattus norvegicus]
A16391 23	7356	AAC40 148	7357	AB044807	7358	BAB198 83	7359	AF060539
A16391 25	7360	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		Channel interacting PDZ domain protein EST (not recognised)		Rat mixed-tissue library Rattus norvegicus cDNA clone r02943 3, mRNA sequence [Rattus norvegicus]
A16391 30	7361	BAB288 98	7362	No human homolog found.	No Human Protein Found.	Rat EST: mouse hypothetical protein from a Riken		Rat mixed-tissue library Rattus norvegicus cDNA clone r00643 3, mRNA sequence [Rattus norvegicus]
A16391 32	7363	No Rat Protein Found.	BG722716	7364	No Human Protein Found.	EST (not recognised)	94.5	Rat mixed-tissue library Rattus norvegicus cDNA clone r01263 3, mRNA sequence [Rattus norvegicus]
A16391 39	7365	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognised)		Rat mixed-tissue library Rattus norvegicus cDNA clone r04483 3, mRNA sequence [Rattus norvegicus]
A16391 39	7366	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognised)		Rat mixed-tissue library Rattus norvegicus cDNA clone r04483 3, mRNA sequence [Rattus norvegicus]
A16391 39	7367	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognised)		Rat mixed-tissue library Rattus norvegicus cDNA clone r04483 3, mRNA sequence [Rattus norvegicus]
A16391 39	7368	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognised)		Rat mixed-tissue library Rattus norvegicus cDNA clone r04483 3, mRNA sequence [Rattus norvegicus]
A16391 61	7369	NP_032 917	7370	AF195139	7371	AA6339 41	7372	NM_00889 1
						Pinin		Rat mixed-tissue library Rattus norvegicus cDNA clone r02802 3, mRNA sequence [Rattus norvegicus]

Table 2.

AI6391 51	7373	NP_032 817	7374	AF185139	7375	AA0339 41	7376	Pinin	NM_00889 1	Rat mixed-tissue library Rattus norvegicus cDNA clone r02802 3, mRNA sequence [Rattus norvegicus]	60S ribosomal protein L13.
AI6391 53	7377	NP_031 417	7378	M82967	7379	P28436	7380	Mus musculus acrosomal vesicle protein 1	NM_00739 1	Rat mixed-tissue library Rattus norvegicus cDNA clone r03802 3, mRNA sequence [Rattus norvegicus]	
AI6391 54	7381	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone r00342 3, mRNA sequence [Rattus norvegicus]	
AI6391 57	7382	P41123	7383	AK026501	7384	P26373	7385	Deoxyribonuclease I (DNaseI)		Rat mixed-tissue library Rattus norvegicus cDNA clone r00882 3, mRNA sequence [Rattus norvegicus]	
AI6391 62	7386	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		Mus musculus 18 days embryo cDNA, RIKEN		Rat mixed-tissue library Rattus norvegicus cDNA clone r01122 3, mRNA sequence [Rattus norvegicus]	
AI6391 65	7387	No Rat Protein Found.		XM_01715 2		XP_017 152		Homo sapiens hypothetical protein FLJ11753		Rat mixed-tissue library Rattus norvegicus cDNA clone r01762 3, mRNA sequence [Rattus norvegicus]	
AI6391 69	7388	No Rat Protein Found.		BM01580 0	7389	No Human Protein Found.		EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone r04422 3, mRNA sequence [Rattus norvegicus]	
AI6391 69	7390	No Rat Protein Found.		BM01590 0	7391	No Human Protein Found.		EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone r04422 3, mRNA sequence [Rattus norvegicus]	
AI6391 72	7392	AAC63 530	7393	Z71188	7394	Q14493	7395	Histone stem- loop binding protein	U75680	Rat mixed-tissue library Rattus norvegicus cDNA clone r05082 3, mRNA sequence [Rattus norvegicus]	
AI6391 76	7386	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone r02841 3, mRNA sequence [Rattus norvegicus]	

Table 2.

AI6391 87	7397	AAH05 702	7398	No human homolog found.	No Human Protein Found.		Rat EST, mouse hypothetical protein from a Riken		Rat mixed-tissue library Rattus norvegicus cDNA clone rX00961 3, mRNA sequence [Rattus norvegicus]
AI6391 88	7399	AAC05 725	7400	XM_01055 7	XP_010 557		Mus musculus RNA helicase A (Ddx8)	U91922	Rat mixed-tissue library Rattus norvegicus cDNA clone rX01621 3, mRNA sequence [Rattus norvegicus]
AI6391 96	7401	NP_076 447	7402	AB007884	NP_056 000	7404	Rattus norvegicus collybistin I EST (not recognized)	NM_02395 7	Rat mixed-tissue library Rattus norvegicus cDNA clone rX05001 3, mRNA sequence [Rattus norvegicus] Rat mixed-tissue library Rattus norvegicus cDNA clone rX00680 3, mRNA sequence [Rattus norvegicus]
AI6392 09	7405	No Rat Protein Found.		No human homolog found.	No Human Protein Found.				
AI6392 15	7408	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone rX01040 3, mRNA sequence [Rattus norvegicus]
AI6392 36	7407	AAF694 79	7408	No human homolog found.	No Human Protein Found.		EST (Mus musculus clone BAC126c8 Rap29-like protein (Rap29) and Ala splice variant 2 (Ala) genes)	AF220294	Rat mixed-tissue library Rattus norvegicus cDNA clone rX00757 3, mRNA sequence [Rattus norvegicus]
AI6392 45	7409	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone rX02839 3, mRNA sequence [Rattus norvegicus]
AI6392 55	7410	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		EST(not recognised)		Rat mixed-tissue library Rattus norvegicus cDNA clone rX01039 3, mRNA sequence [Rattus norvegicus]

Table 2.

AI6392 55	7411	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone r01039 3, mRNA sequence [Rattus norvegicus]
AI6392 55	7412	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone r01039 3, mRNA sequence [Rattus norvegicus]
AI6392 55	7413	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)	Rat mixed-tissue library Rattus norvegicus cDNA clone r01039 3, mRNA sequence [Rattus norvegicus]
AI6392 56	7414	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone r01019 3, mRNA sequence [Rattus norvegicus]
AI6392 56	7415	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone r01019 3, mRNA sequence [Rattus norvegicus]
AI6392 64	7416	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone r04679 3, mRNA sequence [Rattus norvegicus]
AI6392 82	7417	NP_112 625	7418 X01_03923 8	XP_039 238	Rattus norvegicus polymerase II Mus musculus 18 days embryo cDNA, RIKEN	NM_03133 5
AI6392 86	7419	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)	Rat mixed-tissue library Rattus norvegicus cDNA clone r04457 3, mRNA sequence [Rattus norvegicus]
AI6393 15	7420	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)	Rat mixed-tissue library Rattus norvegicus cDNA clone r04857 3, mRNA sequence [Rattus norvegicus]
AI6393 17	7421	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)	Rat mixed-tissue library Rattus norvegicus cDNA clone r04857 3, mRNA sequence [Rattus norvegicus]



Table 2.

AI6393 18	7422	CAC10 568	7423	NM_0206 30	7424	P07949	7425	94.61	receptor tyrosine kinase:RET gene EST (not recognized)	AJ289016	Rat mixed-tissue library Rattus norvegicus cDNA clone r04977.3, mRNA sequence [Rattus norvegicus]
AI6393 20	7426	No Rat Protein Found.	No human homolog found.	No Human Protein Found.							Rat mixed-tissue library Rattus norvegicus cDNA clone r02316.3, mRNA sequence [Rattus norvegicus]
AI6393 24	7427	No Rat Protein Found.	AF177339	7428	No Human Protein Found.		7429	92.59	Homo sapiens clone SP329 unknown mRNA		Rat mixed-tissue library Rattus norvegicus cDNA clone r02556.3, mRNA sequence [Rattus norvegicus]
AI6393 24	7430	No Rat Protein Found.	AF177339	7431	No Human Protein Found.		7432	92.59	Homo sapiens clone SP329 unknown mRNA		Rat mixed-tissue library Rattus norvegicus cDNA clone r02556.3, mRNA sequence [Rattus norvegicus]
AI6393 29	7433	No Rat Protein Found.	No human homolog found.	No Human Protein Found.					EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone r00376.3, mRNA sequence [Rattus norvegicus]
AI6393 36	7434	NP_061 229	7435	BG180460	7436	No Human Protein Found.		88.46	Mus musculus zinc finger protein 326 (Zfp326)	NM_018759	Rat mixed-tissue library Rattus norvegicus cDNA clone r01356.3, mRNA sequence [Rattus norvegicus]
AI6393 42	7437	No Rat Protein Found.	No human homolog found.	No Human Protein Found.					Mus musculus 10 days embryo cDNA, RIKEN		Rat mixed-tissue library Rattus norvegicus cDNA clone r04056.3, mRNA sequence [Rattus norvegicus]
AI6393 43	7438	No Rat Protein Found.	No human homolog found.	No Human Protein Found.					EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone r04036.3, mRNA sequence [Rattus norvegicus]
AI6393 47	7439	No Rat Protein Found.	No human homolog found.	No Human Protein Found.					EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone r04496.3, mRNA sequence [Rattus norvegicus]

Table 2.

A16393 65	7440	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone r03935 3, mRNA sequence [Rattus norvegicus]	
A16393 90	7441	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone r02134 3, mRNA sequence [Rattus norvegicus]	
A16393 91	7442	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone r02754 3, mRNA sequence [Rattus norvegicus]	
A16393 93	7443	No Rat Protein Found.	AF021351	7444	OT4802	92	ESTs, Highly similar to RPC1_HUMAN DNA-DIRECTED RNA POLYMERASE III LARGEST SUBUNIT [H.sapiens]	Rat mixed-tissue library Rattus norvegicus cDNA clone r02894 3, mRNA sequence [Rattus norvegicus]
A16394 10	7446	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		Mus musculus adult male lung cDNA, RIKEN	Rat mixed-tissue library Rattus norvegicus cDNA clone r04114 3, mRNA sequence [Rattus norvegicus]	
A16394 10	7447	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		Mus musculus adult male lung cDNA, RIKEN	Rat mixed-tissue library Rattus norvegicus cDNA clone r04114 3, mRNA sequence [Rattus norvegicus]	
A16394 25	7448	No Rat Protein Found.	BE792880	7449	No Human Protein Found.	85.05	EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone r00313 3, mRNA sequence [Rattus norvegicus]
A16394 25	7450	No Rat Protein Found.	BE792880	7451	No Human Protein Found.	85.05	EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone r00313 3, mRNA sequence [Rattus norvegicus]

Table 2.

AI6394 27	7452	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rX00133.3, mRNA sequence [Rattus norvegicus]
AI6394 27	7453	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rX00133.3, mRNA sequence [Rattus norvegicus]
AI6394 34	7454	No Rat Protein Found.	AW60352 1	No Human Protein Found.	95.52 EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rX04173.3, mRNA sequence [Rattus norvegicus]
AI6394 38	7456	AAK842 14	AY033141	Q869F8	Mouse Hermansky- Pudlak syndrome type 3 protein (Hps3)	AF396703 Rat mixed-tissue library Rattus norvegicus cDNA clone rX04493.3, mRNA sequence [Rattus norvegicus]
AI6394 43	7460	No Rat Protein Found.	XM_03124 6	XP_031 246	Roundabout (axon guidance receptor, Drosophila) homolog 2	Rat mixed-tissue library Rattus norvegicus cDNA clone rX05153.3, mRNA sequence [Rattus norvegicus]
AI6394 61	7463	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rX01272.3, mRNA sequence [Rattus norvegicus]
AI6394 65	7464	No Rat Protein Found.	AF361946	Q869Q1	EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rX01612.3, mRNA sequence [Rattus norvegicus]
AI6394 65	7467	No Rat Protein Found.	AF361946	Q869Q1	EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rX01612.3, mRNA sequence [Rattus norvegicus]
AI6394 71	7470	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rX04752.3, mRNA sequence [Rattus norvegicus]

Table 2.

AI6394 71	7471	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone r04752.3, mRNA sequence [Rattus norvegicus]			
AI6394 74	7472	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Mus musculus 10 days embryo cDNA, RIKEN	Rat mixed-tissue library Rattus norvegicus cDNA clone r04832.3, mRNA sequence [Rattus norvegicus]			
AI6394 84	7473	No Rat Protein Found.	AK000592	No Human Protein Found.	EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone r02471.3, mRNA sequence [Rattus norvegicus]			
AI6394 84	7476	No Rat Protein Found.	AK000592	No Human Protein Found.	EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone r02471.3, mRNA sequence [Rattus norvegicus]			
AI6394 88	7479	AAA911 67	7480 NM_0023 92	7481 G8UMT 8	7482	66 Mdm2 (mouse double minute 2)	U40145	Rat mixed-tissue library Rattus norvegicus cDNA clone r02811.3, mRNA sequence [Rattus norvegicus]	
AI6394 90	7483	No Rat Protein Found.	XM_03142 3	XP_031 423	Homo sapiens PHD zinc finger transcription factor (PF1)	Rat mixed-tissue library Rattus norvegicus cDNA clone r02831.3, mRNA sequence [Rattus norvegicus]			
AI6394 94	7484	P11345	7485 X06409	7486 P04049	7487	95.42 Mus musculus Makorn RING zinc-finger protein 2	AF277171	Rat mixed-tissue library Rattus norvegicus cDNA clone r03991.3, mRNA sequence [Rattus norvegicus]	
AI6394 98	7488	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone r00871.3, mRNA sequence [Rattus norvegicus]			
AI6395 01	7489	No Rat Protein Found.	NM_0314 42	7490 NP_113 630	7491	Hypothetical protein DKF20761J17 121 [Homo sapiens].		Rat mixed-tissue library Rattus norvegicus cDNA clone r01371.3, mRNA sequence [Rattus norvegicus]	
									RAF proto- oncogene serine/threonine protein kinase (EC 2.7.1.- ) (RAF-1) (C- RAF).

Table 2.

A16395 04	7492	No Rat Protein Found.	B1517972	7493	Q8BR76	7484	84.21	EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone r047913, mRNA sequence [Rattus norvegicus]
A16395 16	7495	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone r003903, mRNA sequence [Rattus norvegicus]
A16395 18	7498	AAD19 908	7497	7498	P52434	7499	91.2	ESTs, highly similar to RP38_HUMA N DNA- DIRECTED RNA POLYMERAS ES I, II, AND III 17.1 KD POLYPEPTID E	AF105004	Rat mixed-tissue library Rattus norvegicus cDNA clone r005703, mRNA sequence [Rattus norvegicus]
A16395 20	7500	No Rat Protein Found.	A1919101	7501	No Human Protein Found.		88.68	EST(not recognised)		Rat mixed-tissue library Rattus norvegicus cDNA clone r012103, mRNA sequence [Rattus norvegicus]
A16395 25	7502	AAK686 36	7503		XP_043 612		67	adiponutrin	AY037763	Rat mixed-tissue library Rattus norvegicus cDNA clone r014303, mRNA sequence [Rattus norvegicus]
A16395 34	7504	CAA31 389	7505	7506	P27918	7507	87.04	Mouse mRNA for propedin	X12905	Rat mixed-tissue library Rattus norvegicus cDNA clone r020813, mRNA sequence [Rattus norvegicus]
A16395 34	7508	CAA31 389	7509	7510	P27918	7511	87.04	Propedin	X12905	Rat mixed-tissue library Rattus norvegicus cDNA clone r020813, mRNA sequence [Rattus norvegicus]
A16395 34	7512	CAA31 389	7513	7514	P27918	7515	87.04	Mouse mRNA for propedin	X12905	Rat mixed-tissue library Rattus norvegicus cDNA clone r020813, mRNA sequence [Rattus norvegicus]
A16395 34	7516	CAA31 389	7517	7518	P27918	7519	87.04	Propedin	X12905	Rat mixed-tissue library Rattus norvegicus cDNA clone r020813, mRNA sequence [Rattus norvegicus]
H31217	7520	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST (not recognized)		re_H31217 EST105044 Rattus norvegicus cDNA, 3' end /clone=RPCAF34 /clone_end=3 /db=H31217 /gi=876634 /ug=Rn.7213 /len=373

Table 2.

H31342	7521	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)	rc_H31342 EST105294 Rattus norvegicus cDNA, 3 end /clone=RPCAH74 /clone_end=3 /gb=H31342 /gi=976759 /ug=Rn.14563 /len=362
H31418	7522	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Mus musculus adult male testis cDNA, RIKEN	rc_H31418 EST105434 Rattus norvegicus cDNA, 3 end /clone=RPCAJ31 /clone_end=3 /gb=H31418 /gi=976835 /ug=Rn.21416 /len=341
H31479	7523	No Rat Protein Found.	AL080181	AAF680 29	Nectin-like protein 2	rc_H31479 EST105544 Rattus norvegicus cDNA, 3 end /clone=RPCAL22 /clone_end=3 /gb=H31479 /gi=976898 /ug=Rn.14570 /len=375
H31479	7528	No Rat Protein Found.	AL080181	AAF680 29	Nectin-like protein 2	rc_H31479 EST105544 Rattus norvegicus cDNA, 3 end /clone=RPCAL22 /clone_end=3 /gb=H31479 /gi=976898 /ug=Rn.14570 /len=375
H31550	7529	No Rat Protein Found.	AK023265	7530	Homo sapiens BAC clone RP11-152F13 from 15	rc_H31550 EST105682 Rattus norvegicus cDNA, 3 end /clone=RPCAP82 /clone_end=3 /gb=H31550 /gi=976967 /ug=Rn.14572 /len=360
H31588	7532	No Rat Protein Found.	AA947174	7533	Mus musculus adult male stomach cDNA, RIKEN	rc_H31588 EST105764 Rattus norvegicus cDNA, 3 end /clone=RPCAR49 /clone_end=3 /gb=H31588 /gi=977005 /ug=Rn.25545 /len=343
H31690	7634	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)	rc_H31690 EST105787 Rattus norvegicus cDNA, 3 end /clone=RPCAR52 /clone_end=3 /gb=H31690 /gi=977007 /ug=Rn.14574 /len=488
H31665	7535	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Mus musculus adult male stomach cDNA, RIKEN	rc_H31665 EST105952 Rattus norvegicus cDNA, 3 end /clone=RPCAV66 /clone_end=3 /gb=H31665 /gi=977082 /ug=Rn.23735 /len=349
H31695	7638	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)	rc_H31695 EST106010 Rattus norvegicus cDNA, 3 end /clone=RPCAW36 /clone_end=3 /gb=H31695 /gi=977112 /ug=Rn.14583 /len=340

Table 2.

H31802	7537	S12207	No human homolog found.	No Human Protein Found.	EST, Moderately similar to S12207 hypothetical protein [M.musculus]	rc_H31802 EST106213 Rattus norvegicus cDNA, 3 end /clone=RPCAY40 /clone_end=3 /gb=H31802 /gi=977219 /ug=Rn.14594 /len=518
H31887	7538	No Rat Protein Found.	AK024220	7539 No Human Protein Found.	91.27 Mus musculus RIKEN cDNA 1700037H04 gene	rc_H31887 EST106421 Rattus norvegicus cDNA, 3 end /clone=RPCBC38 /clone_end=3 /gb=H31887 /gi=977304 /ug=Rn.14601 /len=445
H31897	7541	No Rat Protein Found.	AA033555	7542 No Human Protein Found.	88.38 EST (not recognized)	rc_H31897 EST106437 Rattus norvegicus cDNA, 3 end /clone=RPCBC56 /clone_end=3 /gb=H31897 /gi=977314 /ug=Rn.21418 /len=373
H31914	7543	P13383	7544 M60858	7545 P18338	84 Nucleolin	rc_H31914 EST106462 Rattus norvegicus cDNA, 3 end /clone=RPCBC88 /clone_end=3 /gb=H31914 /gi=977331 /ug=Rn.23826 /len=397
H31955	7547	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)	rc_H31955 EST106538 Rattus norvegicus cDNA, 3 end /clone=RPCBD66 /clone_end=3 /gb=H31955 /gi=977372 /ug=Rn.14604 /len=270
H31964	7548	No Rat Protein Found.	AK025590	7549 No Human Protein Found.	89.32 EST (not recognized)	rc_H31964 EST106549 Rattus norvegicus cDNA, 3 end /clone=RPCBD78 /clone_end=3 /gb=H31964 /gi=977381 /ug=Rn.14605 /len=219
H31982	7550	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Rattus norvegicus clone RP31-223K12	rc_H31982 EST106584 Rattus norvegicus cDNA, 3 end /clone=RPCBE17 /clone_end=3 /gb=H31982 /gi=977398 /ug=Rn.7138 /len=363
H31990	7551	No Rat Protein Found.	AW01628	7552 No Human Protein Found.	83.19 EST(not recognised)	rc_H31990 EST106587 Rattus norvegicus cDNA, 3 end /clone=RPCBE27 /clone_end=3 /gb=H31990 /gi=977407 /ug=Rn.22684 /len=367
H32977	7553	BAB256	7554 XM_04479	XP_044794	EST (hypothetical proteins)	rc_H32977 EST106553 Rattus norvegicus cDNA, 3 end /clone=RPNAB17 /clone_end=3 /gb=H32977 /gi=976394 /ug=Rn.14617 /len=396

Table 2.

H33086	7555	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Musculus, similar to protein Kinase, cAMP dependent regulatory, type I beta, clone MG.C.18526 IMAGE:3674751	rc_H33086 EST108750 Rattus norvegicus cDNA, 3 end /clone=RPNA.G73 /clone_end=3 /gb=H33086 /gi=878503 /ug=Rn.14623 /len=347
H33101	7556	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)	rc_H33101 EST108789 Rattus norvegicus cDNA, 3 end /clone=RPNA.H27 /clone_end=3 /gb=H33101 /gi=878518 /ug=Rn.9269 /len=351
H33219	7557	No Rat Protein Found.	XM_002656	XP_002656	Hypothetical protein FLJ20080 (Human)	rc_H33219 EST109005 Rattus norvegicus cDNA, 3 end /clone=RPNA.J82 /clone_end=3 /gb=H33219 /gi=878636 /ug=Rn.8101 /len=381
H33426	7558	NP_031824	NM_001908	P07858	Musculus cathepsin B (LOW HOMOLOG)	rc_H33426 EST109414 Rattus norvegicus cDNA, 3 end /clone=RPNA.R42 /clone_end=3 /gb=H33426 /gi=878843 /ug=Rn.21071 /len=422
H33426	7562	NP_031824	NM_001908	P07858	Musculus cathepsin B (LOW HOMOLOG)	rc_H33426 EST109414 Rattus norvegicus cDNA, 3 end /clone=RPNA.R42 /clone_end=3 /gb=H33426 /gi=878843 /ug=Rn.21071 /len=422
H33459	7566	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Musculus adult male small intestine cDNA, RIKEN	rc_H33459 EST109477 Rattus norvegicus cDNA, 3 end /clone=RPNA.S05 /clone_end=3 /gb=H33459 /gi=878876 /ug=Rn.2568 /len=419



Table 2.

H33459	7567	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Mus musculus adult male small intestine cDNA, RIKEN	rc_H33459 EST109477 Rattus norvegicus cDNA, 3 end /clone=RPNAS05 /clone_end=3 /gb=H33459 /gb=978876 /ug=Rn.2566 /len=419						
H33461	7568	AAK29401	BG718301	7570	XP_018286	92.54	Rattus norvegicus nucleolar protein C7C mRNA, complete cds	AF333986	rc_H33461 EST109481 Rattus norvegicus cDNA, 3 end /clone=RPNAS13 /clone_end=3 /gb=H33461 /gb=978878 /ug=Rn.4252 /len=551			
H33467	7571	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)	rc_H33467 EST109500 Rattus norvegicus cDNA, 3 end /clone=RPNAS30 /clone_end=3 /gb=H33467 /gb=978884 /ug=Rn.14841 /len=352						
H33491	7572	Q8J46	7573	Z37986	7574	Q15125	7575	83.33	sterol delta 8-isomerase	AF071501	rc_H33491 EST109547 Rattus norvegicus cDNA, 3 end /clone=RPNAS68 /clone_end=3 /gb=H33491 /gb=978908 /ug=Rn.18436 /len=569	Integral membrane protein. Endoplasmic reticulum.
H33614	7576	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)	rc_H33614 EST109780 Rattus norvegicus cDNA, 3 end /clone=ATCC-2004087 /clone_end=3 /gb=H33614 /gb=979031 /ug=Rn.14863 /len=224					"3-beta-hydroxysteroid-delta(8),delta(7)-isomerase (EC 5.3.3.5)(Cholest-enol delta-isomerase) (Delta8-delta7 sterol isomerase) (D8-D7sterol isomerase) (Emopartil binding protein)."	

Table 2.

H33636	7577	AAB349 38	7578	NM_0036 29	7579	C92569	7580	Mouse p55 <sup>PI3K</sup> =phos phatidylinositol 3-kinase regulatory subunit	S79169	rc_H33636 EST109819 Rattus norvegicus cDNA, 3 end /clone=RPNAV07 /clone_end=3 /gb=H33636 /gi=979053 /ug=Rn.14653 /len=411
H33651	7581	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST109846 PC-12 cells, NGF-treated (9 days)	U31908	98 Potassium channel beta 2 subunit	rc_H33651 EST109846 Rattus norvegicus cDNA, 3 end /clone=RPNAV67 /clone_end=3 /gb=H33651 /gi=979068 /ug=Rn.14654 /len=447		
H33656	7582	AAA751 74	7583	NM_0036 36	7584	Q13303	7585	98 Potassium channel beta 2 subunit	rc_H33656 EST109855 Rattus norvegicus cDNA, 3 end /clone=RPNAV94 /clone_end=3 /gb=H33656 /gi=979073 /ug=Rn.14656 /len=360	
H33660	7586	No Rat Protein Found.	AK058044	7587	No Human Protein Found.	7588	82 EST (not recognised)	rc_H33660 EST109859 Rattus norvegicus cDNA, 3 end /clone=RPNAV03 /clone_end=3 /gb=H33660 /gi=979077 /ug=Rn.3331 /len=389		
S45392	7589	AAB233 69	7590	NM_0073 55	7591	P08238	7592	85 heat shock protein 90	A1008074	S45392 heat shock protein 90 [rats, brain, mRNA, 2524 nt]
S45812	7593	190315 9A	M68840	7594	P21397	7595	91 ESTs, Highly similar to 1903169A monoamine oxidase A [R.norvegicus]			S45812 monoamine oxidase A [rats, liver, mRNA Partial, 2104 nt]
S46785	7596	P35859	7597	M68826	7598	P35858	7599	77 Rattus norvegicus insulin-like growth factor binding protein complex acid- labile subunit gene, complete cds		S46785 insulin-like growth factor binding protein complex acid-labile subunit [rats, liver, mRNA, 2190 nt]

Table 2.

S47609	7600	AAA118	7601	S46950	7602	P29274	7603	74	A2 adenosine receptor	S47609 A2 adenosine receptor [rats, striatum, mRNA, 2141 nt]	
S50879	7604	AAB245	7605	NM_0006	7606	P22303	7607	82	Acetylcholinesterase T subunit	S50879 acetylcholinesterase T subunit [rats, mRNA, Partial, 2066 nt]	
S50879	7608	AAB245	7609	NM_0006	7610	P22303	7611	82	Acetylcholinesterase T subunit	S50879 acetylcholinesterase T subunit [rats, mRNA, Partial, 2066 nt]	
S50879	7612	AAB245	7613	NM_0008	7614	P22303	7615	82	Acetylcholinesterase T subunit	S50879 acetylcholinesterase T subunit [rats, mRNA, Partial, 2066 nt]	
S50879	7616	AAB245	7617	NM_0006	7618	P22303	7619	82	Acetylcholinesterase T subunit	S50879 acetylcholinesterase T subunit [rats, mRNA, Partial, 2066 nt]	
S54008	7620	Q04589	7621	M37722	7622	P11362	7623	97	FGF receptor-1	S54008 fibroblast growth factor receptor 1 beta-isoform [Rattus norvegicus=Norway rat, Sprague-Dawley, kidneys, mRNA, 2520 nt] /cds=(300,2489) /gb=S54008 /gi=264804 /ug=Rn.9797 /len=2520	Type I membrane protein.
S55427	7624	AAB253	7625	S61788	7626	Q01453	7627	78	Myelin protein SR13=growth-arrest-specific Gae-3 homolog	S55427 myelin protein SR13=growth-arrest-specific Gae-3 homolog [rats, sciatic nerve, mRNA, 1736 nt]	Basic fibroblast growth factor precursor 1 (EC 2.7.1.112)(FGF R-1) (bFGF-R) (MFR).
S56141	7628	AAA417	7629	XM_05259	XP_052	XP_052		83	orphan transporter v7-3.	S56141 sodium-dependent neurotransmitter transporter (clone via 1732) [rats, Sprague Dawley, ventral midbrain, mRNA, 3208 nt]	
S56508	7630	AAB198	7631	XM_02911	XP_029	XP_029		92	Phosphatidylinositol 4-kinase	S56508 phosphatidylinositol 4-kinase [rats, brain, mRNA, 2573 nt]	
S56937	7632	AAA423	7633	NM_0190	7634	NP_061	7635	78	bilirubin UDP-glucuronosyltransferase	S56937 3-methylcholanthrene-inducible UDP-glucuronosyltransferase [rats, mRNA, 603 nt]	

Table 2.

S58644	7636	AAB26278	7637	No human homolog found.	No Human Protein Found.	7640	7641	81	Integrin beta 5 subunit	S58644 Integrin beta 5 subunit [rats, NRK cells, mRNA Partial, 603 nt]
S59525	7638	AAB26420	7639	NM_000406	P30968	7640	7641	81	Gonadotropin-releasing hormone receptor	S59525 gonadotropin-releasing hormone receptor [rats, pituitary gland, mRNA, 2256 nt]
S62086	7642	AAB27018	7643	NM_004581	Q92866	7644	7645	87	Rab geranylgeranyl transferase component B alpha subunit	S62086 Rab geranylgeranyl transferase component B alpha subunit [rats, brain, mRNA, 2672 nt]
S62097	7646	AAB27019	7647	X98001	P53611	7648	7649	95	Rab geranylgeranyl transferase component B beta subunit; Rab GG transferase component B beta subunit [Rattus sp.]	S62097 Rab geranylgeranyl transferase component B beta subunit [rats, brain, mRNA, 1344 nt]
S63521	7650	No Rat Protein Found.	XM_044201	1	XP_044201				Glucose-regulated protein GRP78	S63521 glucose-regulated protein GRP78 [rats, thyroid gland, mRNA, 1343 nt]
S63521	7651	No Rat Protein Found.	XM_044201	1	XP_044201				Glucose-regulated protein GRP78	S63521 glucose-regulated protein GRP78 [rats, thyroid gland, mRNA, 1343 nt]
S65355	7652	AAB28172	7653	NM_000115	P24530	7654	7655	86	nonselective-type endothelin receptor	S65355 nonselective-type endothelin receptor [rats, brain, mRNA, 2018 nt]

Table 2.

S65355	7656	AAB281 72	7657	NM_0001 15	7658	P24530	7659	86	nonselective- type endothelin receptor	S65355 nonselective-type endothelin receptor [rats, brain, mRNA, 2018 nt]
S65555	7660	AAB282 25	7661	NM_0020 61	7662	P48507	7663	92	Gamma- glutamyl/cystei ne synthetase light chain	S65555 gamma-glutamyl/cysteine synthetase light chain [rats, kidney, mRNA, 1360 nt]
S65555	7664	AAB282 25	7665	NM_0020 61	7666	P48507	7667	92	Gamma- glutamyl/cystei ne synthetase light chain	S65555 gamma-glutamyl/cysteine synthetase light chain [rats, kidney, mRNA, 1360 nt]
S65555	7668	AAB282 25	7669	NM_0020 61	7670	P48507	7671	92	Gamma- glutamyl/cystei ne synthetase light chain	S65555 gamma-glutamyl/cysteine synthetase light chain [rats, kidney, mRNA, 1360 nt]
S65555	7672	AAB282 25	7673	NM_0020 61	7674	P48507	7675	92	Gamma- glutamyl/cystei ne synthetase light chain	S65555 gamma-glutamyl/cysteine synthetase light chain [rats, kidney, mRNA, 1360 nt]
S66024	7676	AAB282 73	7677	U44836	7678	AAB037 51	7679	85	transcriptional repressor CREM	S66024 transcriptional repressor CREM [rats, pitheal gland, mRNA, 436 nt]
S66024	7680	AAB282 73	7681	U44836	7682	AAB037 51	7683	85	transcriptional repressor CREM	S66024 transcriptional repressor CREM [rats, pitheal gland, mRNA, 436 nt]
S66184	7684	NP_058 757	7685	NM_0023 17	7686	P26300	7687	72	Rattus norvegicus lysyl oxidase (Lox), mRNA	S66184 lysyl oxidase (3 region) [rats, fibroblasts, mRNA Partial, 253 nt]
S68809	7688	AAB205 39	7689	NM_0062 71	7690	P23297	7691	80	Rattus sp. S100 alpha mRNA, partial cds	S68809 S100 alpha [rats, kidney, mRNA Partial, 433 nt]

[illegible]

Table 2.

S71570	7716	AAB306 70	7717	XM_04434 8	XP_044 348	7720	XP_011 387	7721	97	Ca <sup>2+</sup> /calmodulin-dependent protein kinase II isoform gamma-b	S71570 Ca <sup>2+</sup> /calmodulin-dependent protein kinase II isoform gamma-b [rats, aorta smooth muscle, mRNA, Partial, 1764 nt]
S72407	7718	AAC52 185	7719	XM_01138 7	XP_011 387	7720	XP_011 387	7721	73	lamifin-2 alpha2 chain	S72407 lamifin M subunit [rats, lipocytes, liver, Sprague-Dawley, mRNA, Partial, 444 nt]
S73007	7722	AAB206 88	7723	NM_0003 45	P37840	7724	P37840	7725	90	synuclein SVN1	S73007 synuclein SVN1 (alternatively spliced) [rats, mRNA, 695 nt]
S73424	7728	AAB323 92	7727	NM_0024 15	P14174	7728	P14174	7729	90	MIF=macrophage migration inhibitory factor	S73424 MIF=macrophage migration inhibitory factor [rats, liver, mRNA, 525 nt]
S74572	7730	AAB334 30	7731	XM_03087 8	XP_030 878				94	Mg <sup>2+</sup> dependent protein phosphatase beta isoform (alternatively spliced)	S74572 Mg <sup>2+</sup> dependent protein phosphatase beta isoform (alternatively spliced) [rats, brain, mRNA, 1503 nt]
S74572	7732	AAB334 30	7733	XM_03087 8	XP_030 878				94	Mg <sup>2+</sup> dependent protein phosphatase beta isoform	S74572 Mg <sup>2+</sup> dependent protein phosphatase beta isoform (alternatively spliced) [rats, brain, mRNA, 1503 nt]
S74572	7734	AAB334 30	7735	XM_03087 8	XP_030 878				94	Mg <sup>2+</sup> dependent protein phosphatase beta isoform (alternatively spliced)	S74572 Mg <sup>2+</sup> dependent protein phosphatase beta isoform (alternatively spliced) [rats, brain, mRNA, 1503 nt]
S74572	7736	AAB334 30	7737	XM_03087 8	XP_030 878				94	Mg <sup>2+</sup> dependent protein phosphatase beta isoform	S74572 Mg <sup>2+</sup> dependent protein phosphatase beta isoform (alternatively spliced) [rats, brain, mRNA, 1503 nt]

Table 2.

S74907	7738	AAB32731	7739	NM_006578	7740	XP_006578	7741	82	PP1M M110=protein phosphatase 1M 110 kDa regulatory subunit	S74907 PP1M M110=protein phosphatase 1M 110 kDa regulatory subunit [rats, aorta, mRNA, 3300 nt]
S75359	7742	AAB33865	7743	NM_004329	7744	P36894	7745	85	Bone morphogenetic protein type 1A receptor	S75359 bone morphogenetic protein type 1A receptor [rats, mRNA, 3167 nt]
S75359	7746	AAB33865	7747	NM_004329	7748	P36894	7749	85	Bone morphogenetic protein type 1A receptor	S75359 bone morphogenetic protein type 1A receptor [rats, mRNA, 3167 nt]
S75435	7750	AAB32520	7751	M16768	7752	AAA61110	7753	46	TCR gamma C4L=T-cell receptor gamma chain	S75435 TCR gamma C4L=T-cell receptor gamma chain (clone RG4) [rats, thymic lymphoma cell line cFTL53, mRNA, 1483 nt]
S75435	7754	AAB32520	7755	XT2500	7756	CAA51165	7757	46	TCR gamma C4L=T-cell receptor gamma chain	S75435 TCR gamma C4L=T-cell receptor gamma chain (clone RG4) [rats, thymic lymphoma cell line cFTL53, mRNA, 1483 nt]
S75997	7758	AAB33384	7759	NM_016553	7760	P37198	7761	74	Nucleoporin p62 homolog	S75997 nucleoporin p62 homolog (inverted repeats) [rats, Sprague-Dawley, testes, mRNA Partial, 1134 nt]
S76742	7782	AAB32808	7763	NM_020208	7764	NIP_084593	7765	84	neurotransmitter transporter rB21a	S76742 neurotransmitter transporter rB21a [rats, brain, mRNA, 1950 nt]
S76758	7786	No Rat Protein Found.		AB038670	7767	BAB55545	7768		BDNF=brain-derived neurotrophic factor (alternatively spliced)	S76758 BDNF=brain-derived neurotrophic factor (alternatively spliced) [rats, brain, mRNA Partial, 711 nt]



Table 2.

S77532	7769	AAB211 03	7770	M31222	7771	P15923	7772	70	FE12=helix-loop-helix transcription factor E12 homolog	S77532 FE12=helix-loop-helix transcription factor E12 homolog [rats, mRNA Partial, 960 nt]
S77858	7773	AAB341 28	7774	M22919	7775	AAA598 83	7776	99	Non-muscle myosin alkali light chain	S77858 non-muscle myosin alkali light chain [rats, Sprague-Dawley, new-born, heart ventricle, mRNA, 613 nt]
S77800	7777	AAB341 27	7778	XM_009501	7779	XP_009501	7780	96	myosin regulatory light chain isoform C; myosin RLC isoform C	S77800 myosin regulatory light chain isoform C [rats, Sprague-Dawley, new-born, heart ventricle, mRNA, 1008 nt]
S77800	7781	AAB341 27	7782	XM_009501	7783	XP_009501	7784	96	myosin regulatory light chain isoform C; myosin RLC isoform C	S77800 myosin regulatory light chain isoform C [rats, Sprague-Dawley, new-born, heart ventricle, mRNA, 1008 nt]
S78217	7785	AAB343 34	7786	NM_002710	7787	P36873	7788	100	protein phosphatase 1 gamma 1	S78217 protein phosphatase 1 gamma 1 [rats, striatum, mRNA Partial, 1508 nt]
S78218	7789	AAB343 35	7790	NM_002709	7791	P37140	7792	100	Protein phosphatase 1 beta	S78218 protein phosphatase 1 beta [rats, striatum, mRNA, 2668 nt]
S78218	7793	AAB343 35	7794	NM_002709	7795	P37140	7796	100	Protein phosphatase 1 beta	S78218 protein phosphatase 1 beta [rats, striatum, mRNA, 2668 nt]
S78218	7797	AAB343 35	7798	NM_002709	7799	P37140	7800	100	Protein phosphatase 1 beta	S78218 protein phosphatase 1 beta [rats, striatum, mRNA, 2668 nt]
S78218	7801	AAB343 35	7802	NM_002709	7803	P37140	7804	100	Protein phosphatase 1 beta	S78218 protein phosphatase 1 beta [rats, striatum, mRNA, 2668 nt]
S78558	7805	AAB349 82	7806	NM_004134	7807	P38646	7808	93	75 kDa glucose regulated protein	S78558 gpr75=75 kDa glucose regulated protein [rats, Sprague-Dawley, brain, mRNA, 3001 nt]

Table 2.

S78556	7809	AAB349 82	7810	NM_0041 34	7811	P38646	7812	93	75 kda glucose regulated protein	S78556 gnp75=75 kda glucose regulated protein [rats, Sprague-Dawley, brain, mRNA, 3001 nt]
S78556	7813	AAB349 82	7814	NM_0041 34	7815	P38646	7816	93	75 kda glucose regulated protein	S78556 gnp75=75 kda glucose regulated protein [rats, Sprague-Dawley, brain, mRNA, 3001 nt]
S78556	7817	AAB349 82	7818	NM_0041 34	7819	P38646	7820	93	75 kda glucose regulated protein	S78556 gnp75=75 kda glucose regulated protein [rats, Sprague-Dawley, brain, mRNA, 3001 nt]
S78556	7821	AAB349 82	7822	NM_0041 34	7823	P38646	7824	93	75 kda glucose regulated protein	S78556 gnp75=75 kda glucose regulated protein [rats, Sprague-Dawley, brain, mRNA, 3001 nt]
S78556	7825	AAB349 82	7826	NM_0041 34	7827	P38646	7828	93	75 kda glucose regulated protein	S78556 gnp75=75 kda glucose regulated protein [rats, Sprague-Dawley, brain, mRNA, 3001 nt]
S78304	7829	AAB212 98	7830	No human homolog found.		No Human Protein Found.			Rattus sp. cytochrome oxidase subunit I mRNA, partial cde, and tRNA, Ser gene, complete sequence; mitochondrial genes for mitochondrial products	S78304 cytochrome oxidase subunit I, Ser- tRNA [rats, Sertoli cells, mRNA Mitochondrial, 987 nt]

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